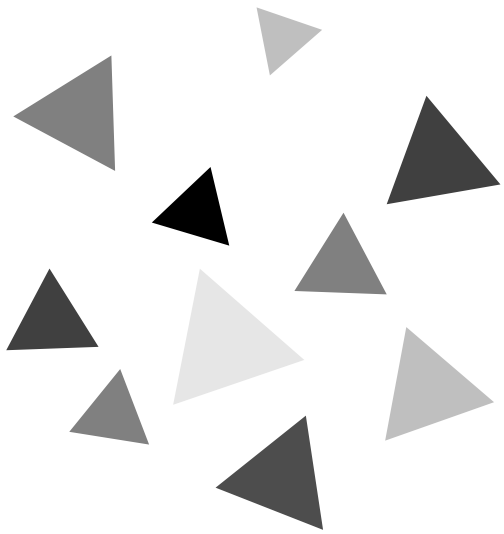
CS1000EV/1100EV

COLOR IMAGE SCANNER

USER'S MANUAL

MANUAL NO. CS1000-UM-153



GRAPHTEC

TO ENSURE SAFE AND CORRECT USE

- To ensure safe and correct use of your Image Scanner, read this Manual thoroughly before use.
- After having read this Manual, keep it in a handy location for quick reference as needed.
- Do not permit small children to touch the Image Scanner.
- The following describes important points for safe operation. Please be sure to observe them strictly.

■ Conventions Used in This Manual

To promote safe and accurate use of the Image Scanner as well as to prevent human injury and property damage, safety precautions provided in this manual are ranked into the three categories described below. Be sure you understand the difference between each of the categories.

⚠DANGER : This category provides information that, if ignored, is highly likely to cause fatal or serious injury to the operator.

⚠WARNING : This category provides information that, if ignored, is likely to cause fatal or serious injury to the operator.

⚠CAUTION : This category provides information that, if ignored, could cause injury to the operator or physical damage to the Image Scanner.

■ Description of Safety Symbols

The ⚠ symbol indicates information that requires careful attention (which includes warnings). The point requiring attention is described by an illustration or text within or next to the ⚠ symbol.

The ⃠ symbol indicates action that is prohibited. Such prohibited action is described by an illustration or text within or next to the ⃠ symbol.

The ❗ symbol indicates imperative action (that must be performed). Such imperative action is described by an illustration or text within or next to the ❗ symbol.

Safety Precautions

⚠ WARNING

Do not disassemble, repair, or remodel this scanner.

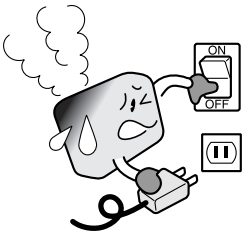
- Such action may cause a fire hazard or electrical shock.
- Such action could impair the scanner's performance and cause it to malfunction or break down.

No disassembly

If the scanner generates smoke, is abnormally hot, emits a strange odor, or otherwise functions abnormally, do not continue using it. Turn off its power and unplug its power cord from the electrical socket.

- Use of the scanner in such status may result in a fire hazard or electrical shock.
- Request repair by contacting your sales representative or nearest Graphtec vendor.
- Never try to perform repair yourself. Repair work by inexperienced personnel is extremely dangerous.

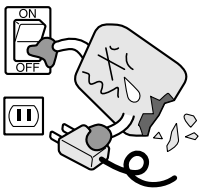
Unplug the power cord from the socket



If the scanner is damaged from being dropped or other impact, turn off its power and unplug its power cord from the electrical socket.

- Use of the scanner in such status may result in a fire hazard or electrical shock.
- Request repair by contacting your sales representative or nearest Graphtec vendor.
- Never try to perform repair yourself. Repair work by inexperienced personnel is extremely dangerous.

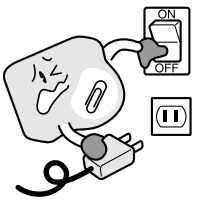
Unplug the power cord from the socket



If water or foreign matter enters the scanner, turn off its power and unplug its power cord from the electrical socket.

- Use of the scanner in such status may result in a fire hazard or electrical shock.
- Request repair by contacting your sales representative or nearest Graphtec vendor.
- Never try to perform repair yourself. Repair work by inexperienced personnel is extremely dangerous.

Unplug the power cord from the socket

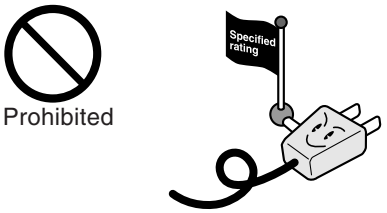


Safety Precautions (Continued)

⚠ WARNING

Do not connect the scanner to a non-rated power supply.

- Use of a different supply voltage may result in a fire hazard or electrical shock.

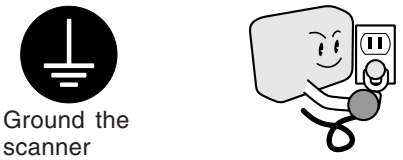


Prohibited

⚠ CAUTION

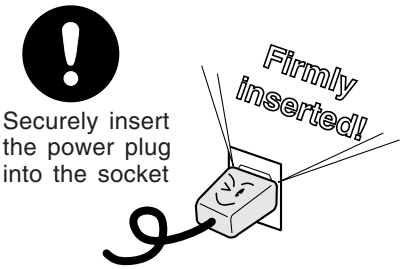
Be sure to ground the earth terminal.

- Unless the scanner is grounded, the operator could suffer an electrical shock in case of current leakage.


Ground the scanner

Insert the scanner's power plug securely into the electrical socket.

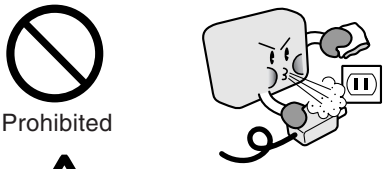
- After first connecting the power cord's female plug to the scanner, connect its male plug to the electrical socket.
- Using the scanner with its power plug incompletely inserted into the electrical socket could cause a fire hazard or electrical shock.



Securely insert the power plug into the socket

Do not allow dust or metallic matter to adhere to the power cord's plug.

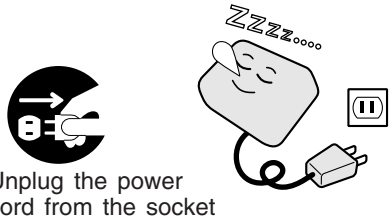
- If the power cord's plugs become dirty, thoroughly wipe them clean.
- The use of a dirty power cord plug could result in a fire hazard or electrical shock.


Prohibited

Beware of electrical shock

When the scanner will not be used for an extended period, unplug its power cord from the electrical socket.

- Leaving the scanner connected to a power supply increases its risk of short-circuiting and overheating.



Unplug the power cord from the socket

Safety Precautions (Continued)

⚠ CAUTION

Be careful not to damage the power cord or SCSI interface cable and never use a damaged cord or cable.

- Do not use unnecessary force to bend, pull, twist, or bind the cord and cable, place a heavy object on them, nor remodel them. Such actions could result in scratches or damage to the cord or cable.
- Use of a damaged power cord or interface cable may result in electrical shock or a fire hazard.
- Replace the damaged cord or cable with a new one.

Never damage or use when damaged

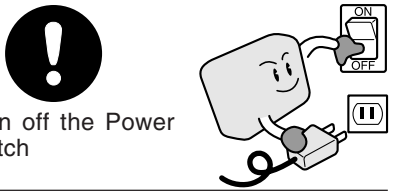
When disconnecting the power cord or the SCSI interface cable, do not pull on the cord/cable.

- Such action will damage the cord/cable, resulting in a fire hazard or electrical shock. Be sure to hold the power cord's plug or the interface cable's connector.

Pulling prohibited

Before disconnecting the power cord or SCSI interface cable, be sure to turn off the scanner.

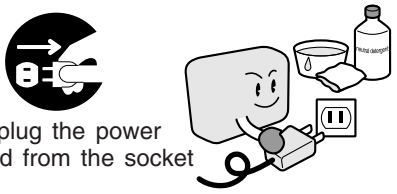
- Failure to do so may damage the scanner's performance and cause it to malfunction or break down.
- Failure to do so may result in electrical shock.



Turn off the Power switch

Before cleaning the scanner, be sure to unplug its power cord from the electrical socket.

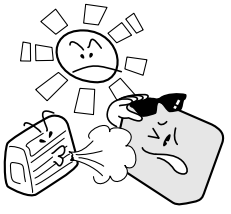
- Failure to do so may result in electrical shock.



Unplug the power cord from the socket

Do not install, use, or store the scanner in a location exposed to direct sunlight and/or the direct draft of an air conditioner or heater.

- Such location may impair the scanner's performance due to deformation or other damage and cause the scanner to malfunction or break down.



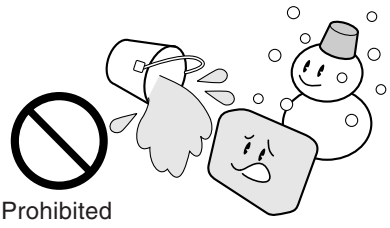
Prohibited

Safety Precautions (Continued)

⚠ CAUTION

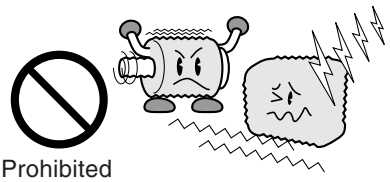
Do not install, use, or store the scanner in a location that does not meet the specified temperature and humidity ranges.

- Such location may impair the scanner's performance and cause the scanner to malfunction or break down.



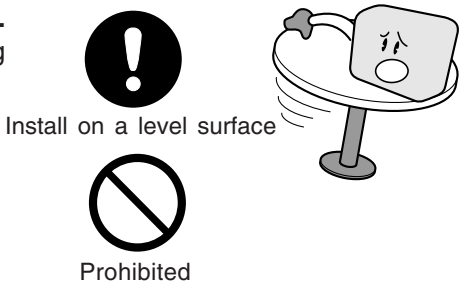
Do not install, use, or store the scanner in a location subject to excessive mechanical vibration or electrical noise.

- Such location may impair the scanner's performance and cause the scanner to malfunction or break down.



Do not install the scanner on an unstable surface.

- The scanner could break due to impact from falling from the surface or cause injury to the operator.

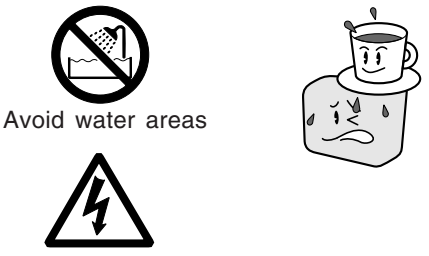


While the scanner is operating (reading or ejecting a document), keep hands, clothing, and other objects away from the document.

- Injury could result from an object getting tangled in the scanner's rollers.

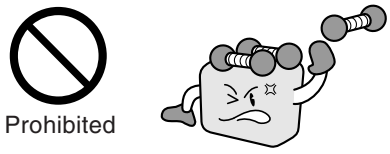
Do not place any receptacle containing water or other fluid on top of the scanner.

- Fluid falling inside the scanner may cause a fire hazard or electrical shock due to a short circuit or overheating.



Do not place heavy objects on the scanner.

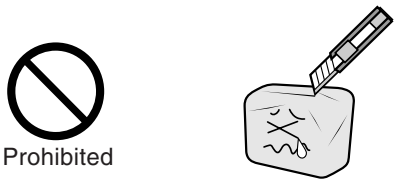
- Such action may impair the scanner's performance due to deformation or other damage, and cause the scanner to malfunction or break down.



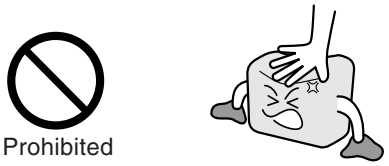
Safety Precautions (Continued)

⚠ CAUTION

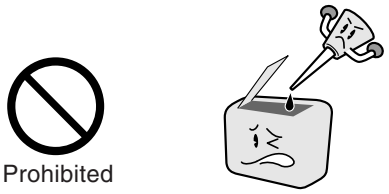
Do not use sharp, pointed articles on the scanner.
- Such action may impair the scanner's performance and cause the scanner to malfunction or break down.



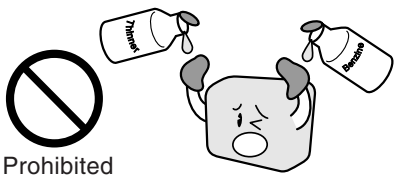
Do not exert pressure on the scanner.
- Such action may impair the scanner's performance and cause the scanner to malfunction or break down.
- Such action could cause injury to the operator.



Do not attempt to lubricate the scanner's mechanisms.
- Such action may impair the scanner's performance and cause the scanner to malfunction or break down.
- Such action may cause a fire hazard or electrical shock due to a short circuit or overheating.

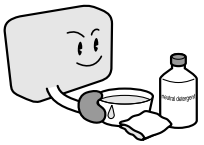


Do not clean the scanner using a volatile solvent such as thinner or benzine.
- Such action may impair the scanner's performance and cause the scanner to malfunction or break down.



Clean off the scanner's soiled areas using a soft cloth that has been moistened with water or a neutral detergent (diluted with water) and then firmly wrung out, then wipe the scanner using a dry cloth.

For more details, see Chapter 5, "Daily Maintenance."



INTRODUCTION

Thank you for purchasing the CS1000EV/CS1100EV Image Scanner. The CS1000EV/CS1100EV is capable of accurately performing high-speed scanning of documents ranging in size from ISO A4 to ANSI E (CS1000EV) or ANSI D (CS1100EV).
An image scanner scans an image by illuminating a document and then reading the reflected light using linear image sensors. The CS1000EV/CS1100EV converts the scanned image data to 8-bit color, 256-tone grayscale or bilevel (monochrome) data, which is then transmitted rapidly to the host system via the SCSI interface.
This User's Manual describes how to operate the CS1000EV/CS1100EV, and also includes usage precautions. Read the manual thoroughly prior to use in order to ensure full understanding of the product's features, and to ensure effective use. Keep the manual in a safe place where it can be accessed easily whenever necessary.

Items in this manual marked ⚠ are precautions to ensure safe use. Please be sure to observe them strictly.

Notes Regarding This Manual

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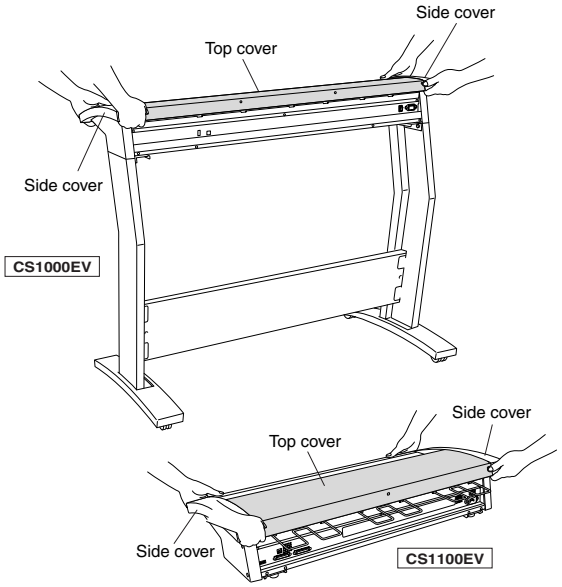
Trademarks

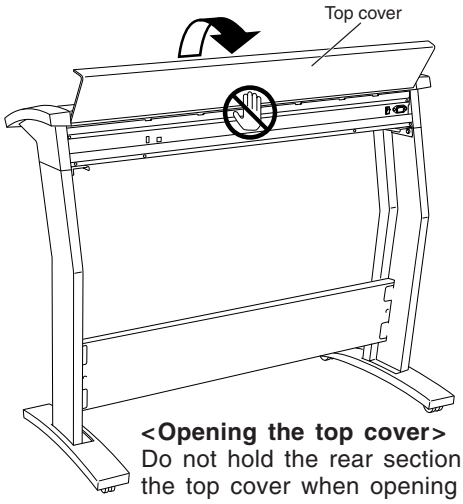
Windows is a U.S. registered trademark of Microsoft Corp. Other product names mentioned herein are trademarks or registered trademarks of their respective owners.

Usage precautions

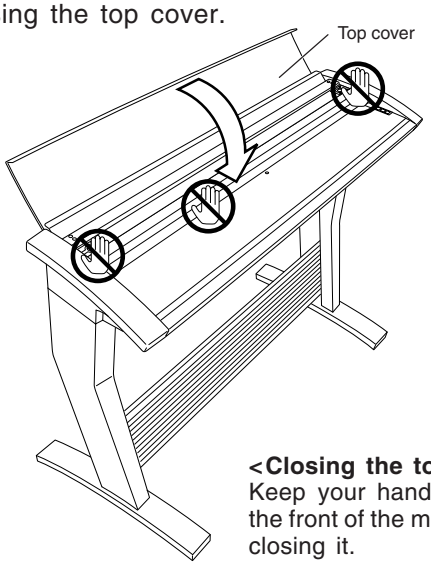
Do not lift or move the unit by holding the top cover, as doing so may damage the unit. Always lift the unit by holding the underside of the side covers.



Take care to prevent your fingers from being caught in the gap between the top cover and the main unit when opening and closing the top cover.



<Opening the top cover>
Do not hold the rear section of the top cover when opening it.



<Closing the top cover>
Keep your hands away from the front of the main unit when closing it.

Before beginning scanner operation, be sure to remove the plastic sheet from the bottom of the document hold-down unit. Please refer to Section 4.5, “Removing the Document Hold-Down Unit” and Section 4.6, “Mounting the Document Hold-Down Unit” of this manual for the removal and mounting procedures.

Scanner Warm-up

A warm-up period is not usually required for the CS1000EV/CS1100EV. However, if you plan to scan a color document (in particular a document with many light colors), we recommend that you allow the CS1000EV/CS1100EV to warm up for 10 minutes before scanning the document.

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1. OVERVIEW

1.1 Features

- **600-dpi optical resolution for high-precision image scanning**

  Scanning with an optical resolution of 600 dpi allows even complex and difficult-to-scan documents, such as CAD drawings, electronic files, and mapping data to be scanned rapidly and with high precision. Scanning Master 21+ (scanner software included as a standard accessory) can be used to adjust the resolution in five levels (200 dpi to 800 dpi) to suit the scanned document.

- **Compatible document widths range from 210 mm to 1000 mm (CS1000EV), or to 630 mm (CS1100EV)**

  Compatible with document sizes from ISO A4 up to ANSI E (CS1000EV) or ANSI D (CS1100EV)

- **Capable of color and grayscale scanning**

  Capable of scanning in color (8-bit color) or grayscale (256 shades)

- **Capable of reading long-axis data**

  Long-axis images are supported with a maximum length of approximately four meters each.

- **Compact and lightweight design**

  A compact design was achieved by using a document travel system that employs closely-adhered image sensors in the sensor unit (five rows arranged in a zigzag pattern).

- **Image-processing functions**

  Use of the scanning software provided lets you set image-processing functions for the scanning of a document.

- **Interface**

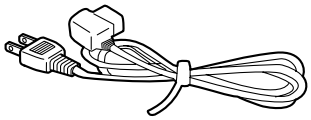
  The interface conforms to the SCSI-2 standard.

1.2 Unpacking the Scanner

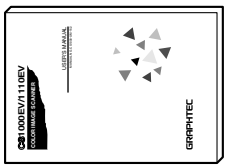
After unpacking the Image Scanner, check its outer casing and check that the standard accessories listed below are all present. If you detect a surface flaw or a missing accessory, please promptly contact your sales representative or nearest Graphtec vendor.

Standard Accessories

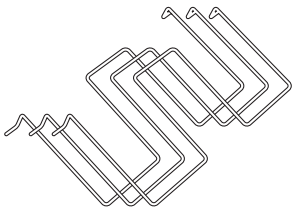
Power cable 1



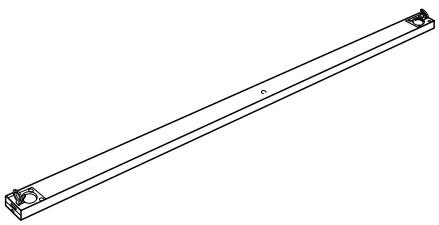
User's Manual 1



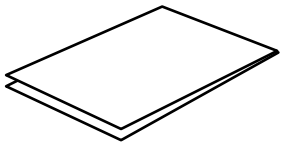
Document support wires 3



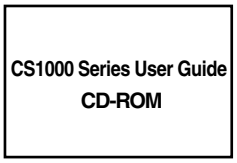
EV document hold-down unit 1



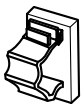
Carrier sheet IS0907 (CS1000EV) or IS0908 (CS1100EV) 1



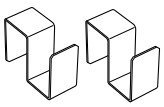
CS1000 Series User Guide CD-ROM 1



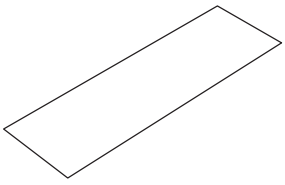
Cable clamp (CS1000EV) 1



Stock brackets (CS1000EV) 2



Calibration sheet 1

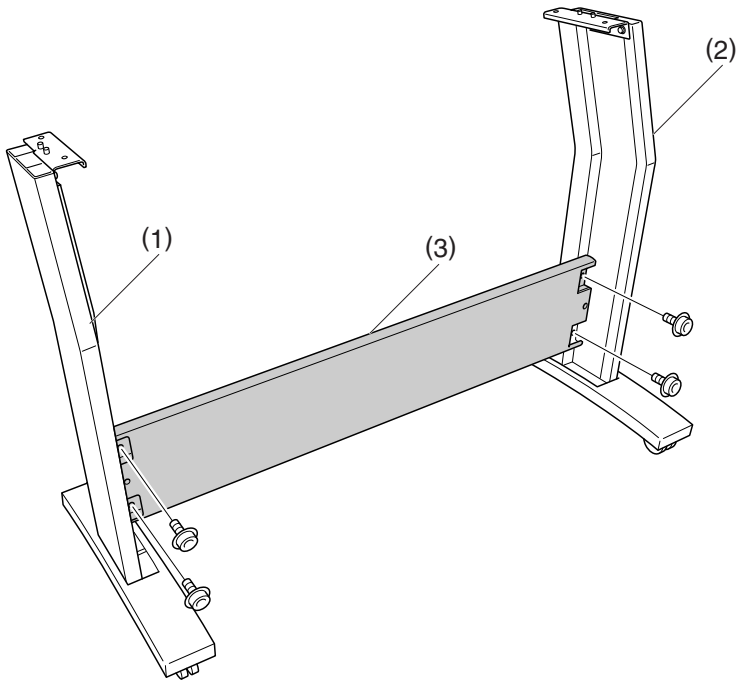


2. PREPARATION

2.1 Assembling the Scanner (CS1000EV)

Assemble the stand before mounting the scanner unit. Eight bolts and an Allen wrench are provided with the stand.

(1) Using four bolts, loosely attach the center bar (3) to side stay R (1) and side stay L (2).



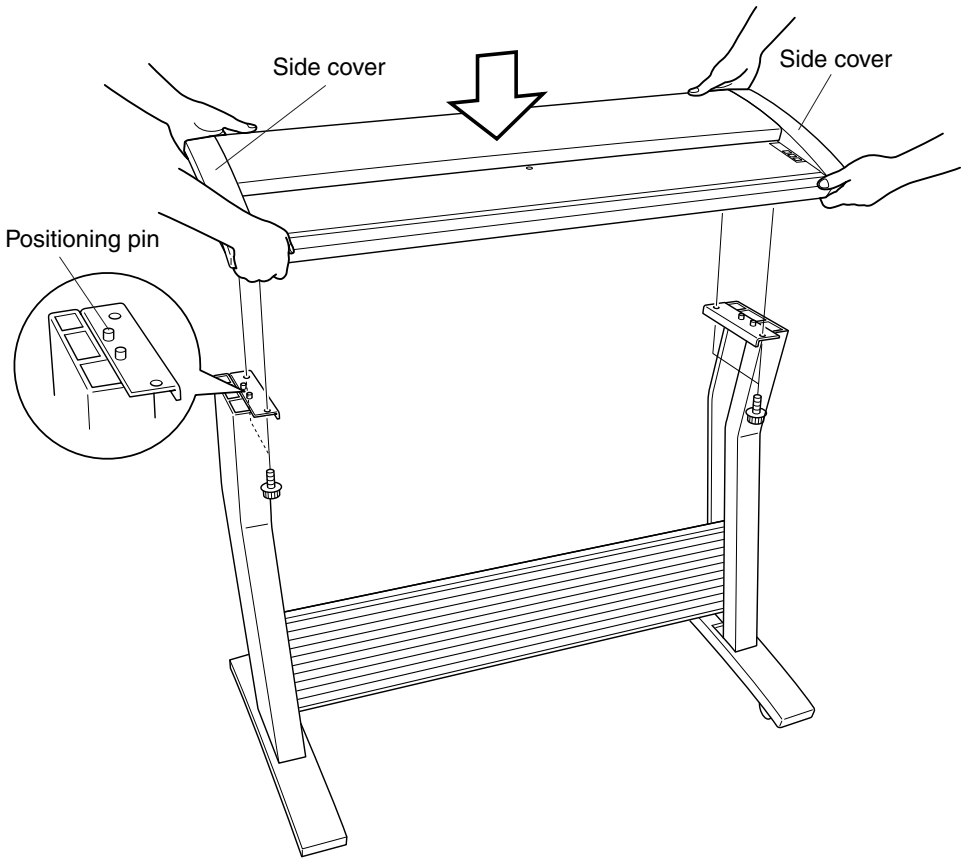
TIP

Attach the center bar loosely. Tighten the bolts securely after the scanner unit has been mounted on the stand.

(2) Hold the scanner unit by the side covers on both sides, and mount the scanner so that the positioning pins on the stand align with the positioning holes on the underside of the scanner. Secure using the four bolts.

⚠ CAUTION

Holding the scanner by the rear part of the top cover may cause damage to the scanner or to the person doing the installation. Always hold the scanner by the side covers.

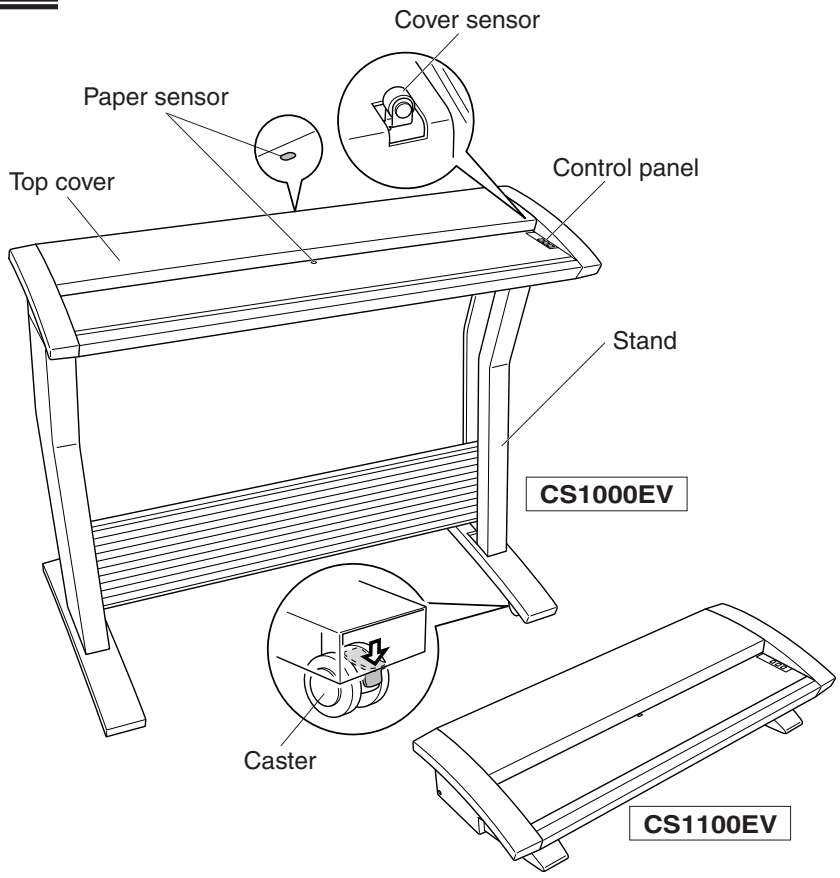


(3) Fully tighten the four bolts on the center bar to secure the side stays (see the diagram for step (1)).

(4) Before beginning scanner operation, be sure to remove the plastic sheet from the bottom of the document hold-down unit. Please refer to Section 4.5, “Removing the Document Hold-Down Unit” and Section 4.6, “Mounting the Document Hold-Down Unit” of this manual for the removal and mounting procedures.

2.2 Part Names and Functions

Front View



Top cover
Opening the top cover allows the document hold-down unit to be removed.

Cover sensor
This senses whether the top cover is open or closed, and interrupts scanner operation if the top cover is opened during operation.

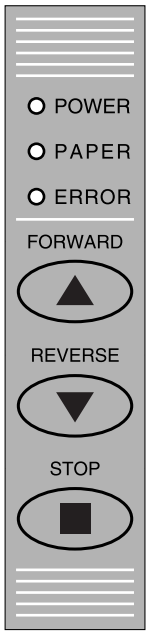
Stand
The stand unit is assembled for mounting of the scanner unit.

Casters
Release the lock on the casters to allow the unit to be moved.

Paper sensor
This senses whether a document is present in the scanner.

⚠ CAUTION
Do not touch the cover sensor or paper sensor.

Control panel



POWER LED

Unlit : Is unlit while the scanner is turned off.
Lit : Lights (green) when the scanner is turned and remains lit while it is operating normally.

PAPER LED

Unlit : Normal status (Local status).
Lit : Lights (green) when the scanner enters Scan READY status.
Flashing : Flashes (green) while image data is being scanned.

ERROR LED

Lit : Lights (red) to indicate a hardware error.
Flashing : Flashes (red) when a document is detected during the self-test when the scanner is turned on or when the scanning is suspended by pressing the STOP key.
Unlit : Normal status

FORWARD key

Advances the document into the scanner. When this key is pressed in Scan READY status, the Scan READY status is cancelled and the document is ejected toward the rear of the scanner.

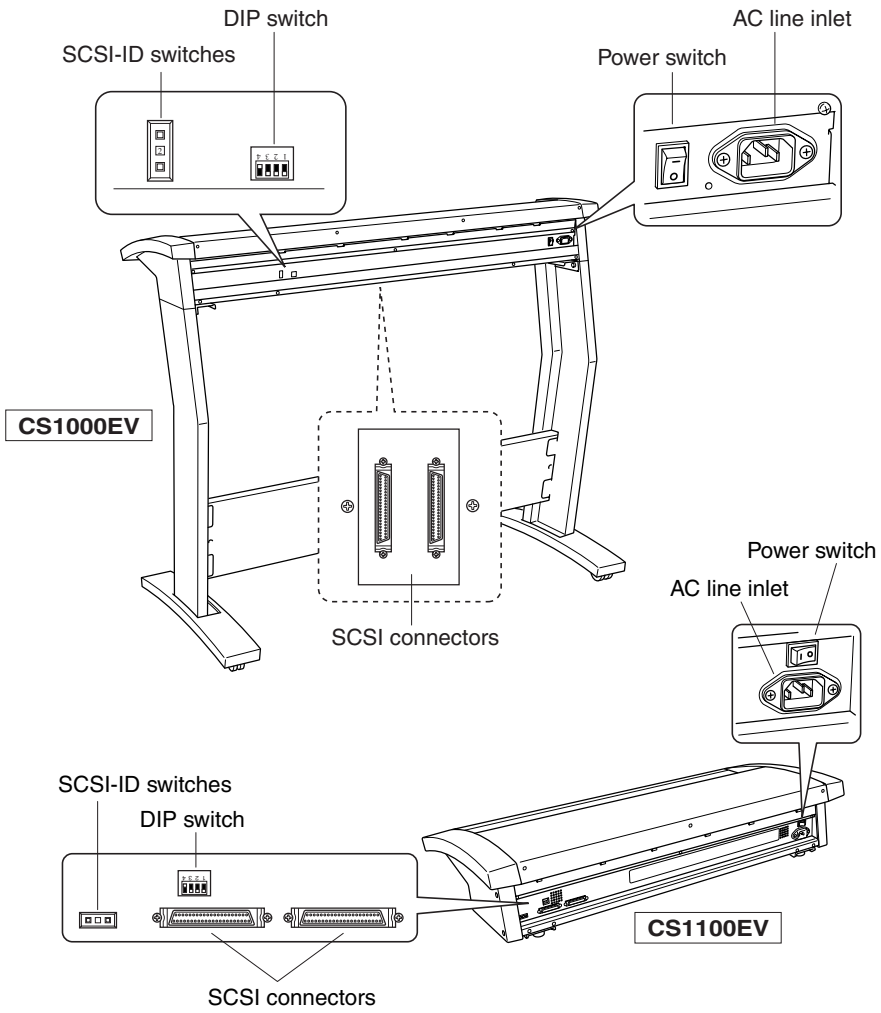
REVERSE key

Feeds the document toward you. When this key is pressed in Scan READY status, the Scan READY status is cancelled and the document is ejected toward the front of the scanner.

STOP key

Compulsorily stops scanning of the document.

Rear View



SCSI-ID switches
Used to specify the ID numbers of the SCSI interfaces.

DIP switch
Used to set the scanner's functions.

Power switch
Controls the on/off status of the power supply to the scanner.

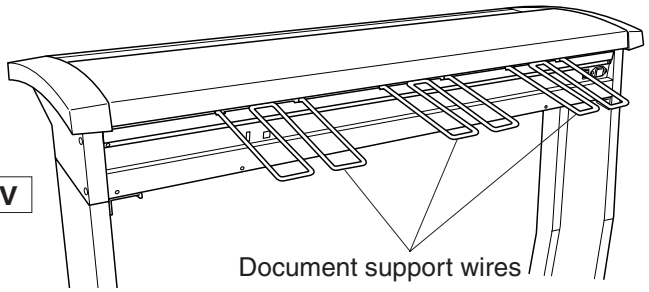
AC line inlet
Connect the power cord's female plug here.

SCSI connectors
Used to connect SCSI interface cables. The two connectors are connected in parallel inside the scanner.

2.3 Attaching the Document Support Wires

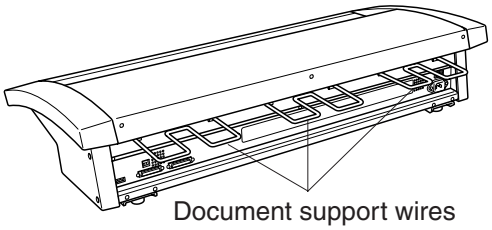
With the CS1000EV, the document support wires should be attached when using the carrier sheet or when heavy documents are scanned.

CS1000EV



With the CS1100EV, always attach the document support wires, regardless of the type of document being scanned.

CS1100EV

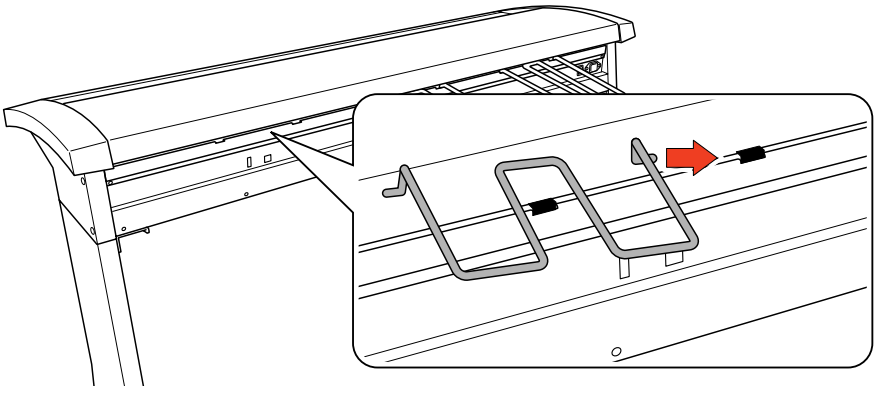


⚠ CAUTION

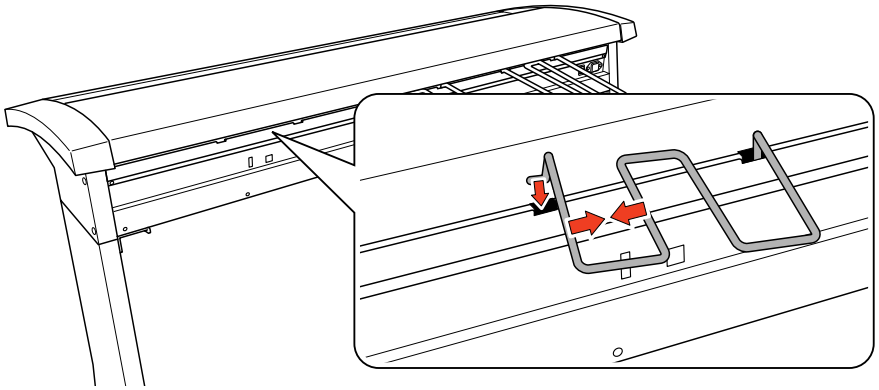
If you are using the CS1100EV model, make sure that the document support wires are attached before beginning a scanning operation. If you perform scanning without the wires attached, the document may be damaged if it comes into contact with the SCSI cable.

Attaching the document support wires

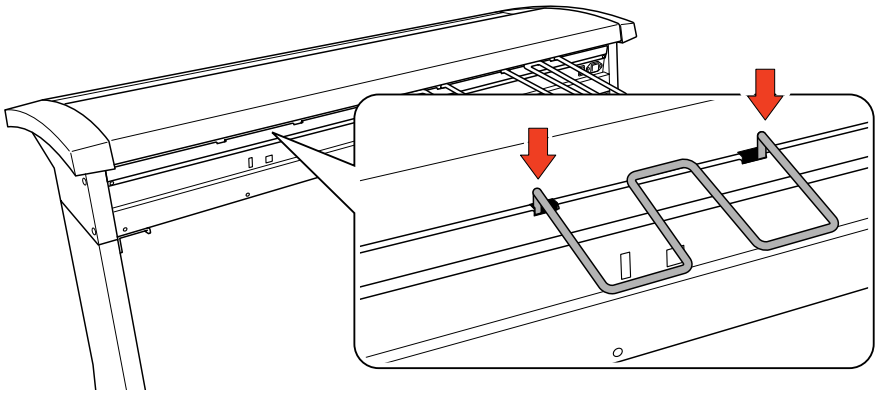
(1) Insert one end of the document support wire provided into the slot at the rear of the scanner.



(2) Squeeze the document support wire, and insert the other end.



(3) Press down on both sides of the document support wire.



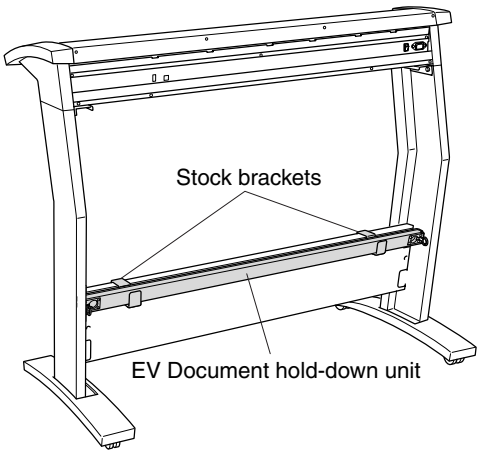
(4) Attach the other document support wires in the same manner.

CHECKPOINT

Detach the document support wires when moving or packing the scanner. Squeeze softly and lift them to detach.

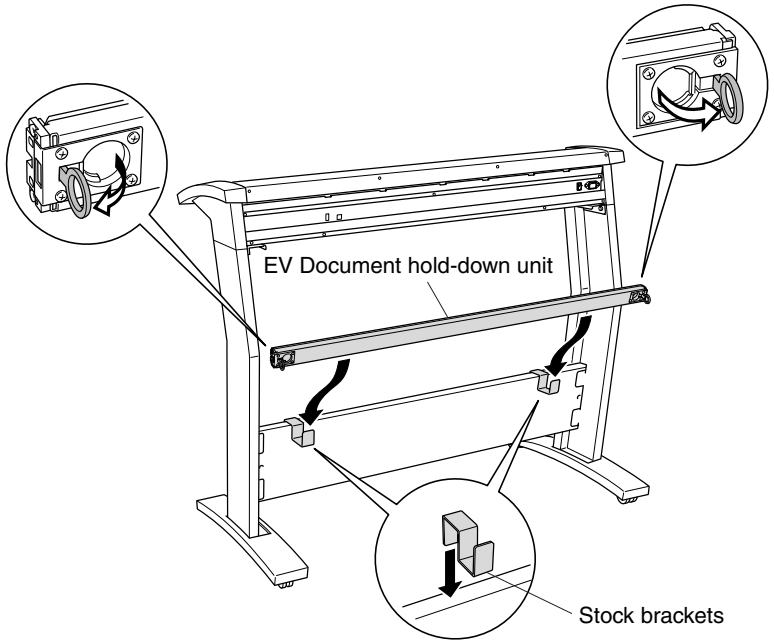
2.4 Storing the EV Document Hold-Down Unit

- Attach the two stock brackets to the stand's center bar, and then mount the hold-down unit on the brackets (CS1000EV, CS1100EV model mounted on the optional stand).
- If you have a CS1100EV model without the optional stand, store the document hold-down unit in the box in which it came.



How to attach the stock brackets (CS1000EV, CS1100EV model mounted on the optional stand)

(1) Hook the two stock brackets onto the center bar as shown in the figure below.
(2) Lift up the handle-rings provided at each side of the document hold-down unit, and then mount the unit onto the brackets with the handle-rings left in the raised position.



Note: The stand is optional for the CS1100EV model.

3. PREPARING TO OPERATE THE SCANNER

3.1 System Requirements

The minimum system requirements for running the scanner's hardware and software are listed below.

- **Operating system:** Windows 95/98/Me, Windows NT 4.0, Windows 2000/XP or later
- **CPU:** Pentium 133 MHz or higher
- **Memory:** 32 MB or more
- **Monitor:** 1024 × 768 pixels, 256 colors or more
- **Enough disk space to store data**
- **Mouse**
- **SCSI board by Adaptec**

Recommended environment

For binary monochrome data
- **CPU:** Pentium 200 MHz or higher
- **Memory:** 64 MB or more
- **SCSI board by Adaptec (PCI type)**

For grayscale data
- **CPU:** Pentium III 550 MHz or higher
- **Memory:** 256 MB or more
- **Monitor:** 1024 × 768 pixels, High Color or higher resolution
- **SCSI board by Adaptec (PCI type)**

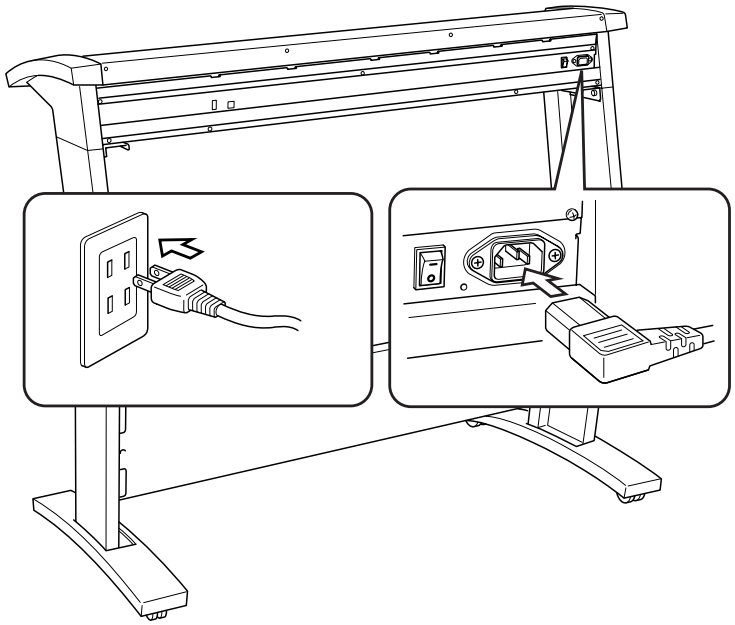
For 8-bit color data
- **CPU:** Pentium III 866 MHz or higher
- **Memory:** 512 MB or more
- **Monitor:** 1024 × 768 pixels, True Color or higher
- **SCSI board by Adaptec (PCI type)**

CHECKPOINT

The system configuration should correspond to the recommended specifications listed here, in order to ensure the optimum capabilities of the scanner.
Use with a system configuration below the recommended specifications will affect the scanning speed and prevent the scanner from operating to its specified capabilities.
To edit an A1-size or larger grayscale document with a resolution of 400 dpi or higher, or an 8-bit color document, you may need more than the recommended memory sizes above. Depending on the type of document, you may not be able to scan in the document even if you increase the memory size.

3.2 Connecting the Scanner to a Power Supply

Insert the female plug of the power cord provided into the scanner's AC line inlet and insert its male plug into an electrical socket supplying AC voltage.
Check that the scanner's Power switch remains in the Off position until the connection of both the power cord and SCSI interface cable has been completed.



If you have a CS1100EV model, please refer to Section 2.2, "Part Names and Functions", page 2-5, for the location of the AC line inlet.

CHECKPOINT

Ensure that the scanner's Power switch is in the Off position.

3.3 Connecting the SCSI Cable

Obtain a SCSI interface cable (optional) that is compatible with the computer to be connected.

Compatible Cables

- The cable must have half-pitch pin-type 50-pin connectors.
- To connect multiple SCSI devices in a daisy-chain* arrangement, the total cable length must be no longer than three meters.
- Among Graphtec cables, the SC0006 or SC0006 2M model can be used (depending on the shape of the connector on the computer's SCSI interface board).

TIP

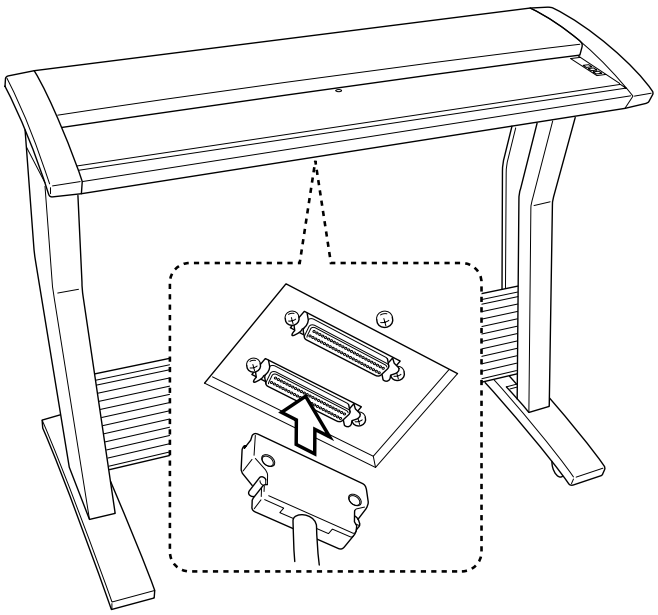
* **Daisy-chain:** A method for connecting peripheral devices in a ring arrangement

⚠ CAUTION

The use of an incompatible cable may cause the scanner to malfunction or damage the interface.
If the cable comes into contact with the document, use the cable clamp provided as a standard accessory to fasten the cable to the underside of the scanner.

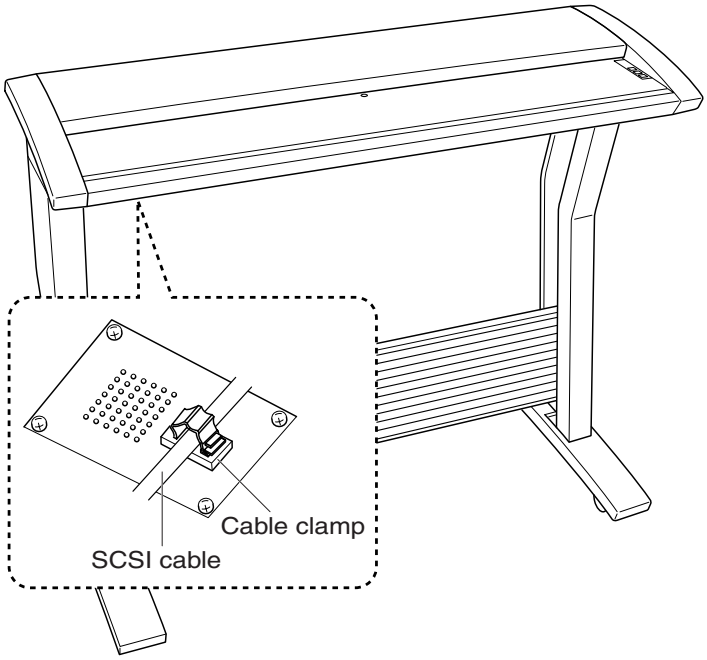
Connection Procedure

(1) Insert one end of the SCSI cable's into one of the two SCSI connectors on the scanner's rear panel.

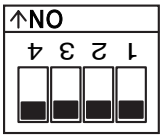


* Firmly insert the cable's connector into the scanner's SCSI connector until it locks into place. If you have a CS1100EV model, please refer to Section 2.2, "Part Names and Functions", page 2-5, for the location of the SCSI connectors.

(2) If the SCSI cable comes into contact with the document, use the cable clamp provided as a standard accessory to fasten the cable to the underside of the scanner, at either the left or right side (CS1000EV only).



(3) Insert the cable's other end into the computer's connector.
(4) If this scanner will be a terminal within the network configuration, set Bit 4 of the DIP switch on the scanner's rear panel to enable the internal terminator function.



		DIP switch's bits			
		4	3	2	1
Terminator	Disable	ON			
	Enable	OFF			
			Usually OFF		

⚠ CAUTION

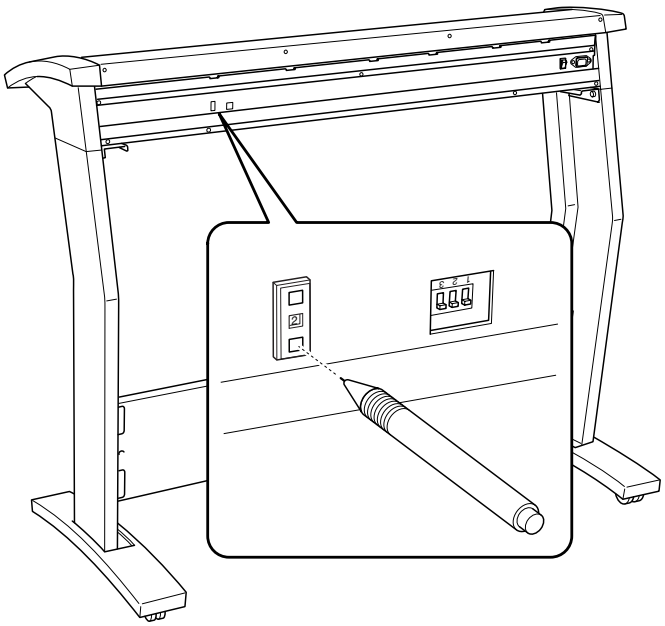
Turn off the scanner before changing a DIP switch setting.

NOTE

The scanner comes with the Terminator setting of "Enable" as its factory-preset default.

3.4 Setting the ID Number

The SCSI bus is designed to allow up to eight devices to be connected at the same time. As a result, a single computer can be used to exchange data with multiple SCSI devices, including a scanner and disk drives. Each device must be assigned an ID number (device number) to enable the devices to be distinguished on the SCSI bus.
Using a mechanical pencil or other pointed object at the SCSI-ID switches on the scanner's rear panel, set the scanner's ID number that corresponds to the host computer's applications.



- The ID can be set from 0 to 7.
- The scanner's default ID number is 2.

If the host computer cannot communicate with the scanner, first check that both of the SCSI cable's connectors are firmly inserted. Note that the host computer and scanner cannot communicate if the scanner shares the same ID as another device or its ID does not correspond to the host computer's applications.
The ID number for the host computer is normally 7.
If you have a CS1100EV model, please refer to Section 2.2, "Part Names and Functions", page 2-5, for the location of the SCSI ID switches.

⚠ CAUTION

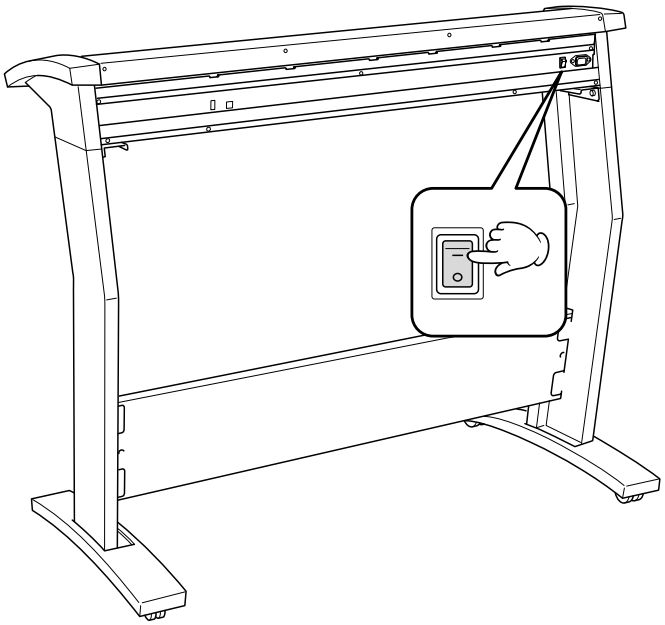
Turn off the scanner before setting the SCSI-ID number.

CHECKPOINT

The scanner comes with the default SCSI-ID number of 2.

3.5 Turning the Scanner On or Off

Whenever the scanner's Power switch is turned on, the POWER, PAPER, and ERROR lamps on the control panel light up. When the scanner has been initialized, the POWER lamp lights up.



If you have a CS1100EV model, please refer to Section 2.2, "Part Names and Functions", page 2-5, for the location of the Power switch.

CHECKPOINT

When resetting the scanner by turning it off then back on again, wait at least three seconds before turning it back on.

3.6 Connecting the Scanner to a Computer

Before you can start connecting the scanner to the computer, you need to prepare (confirm) the computer system's environment.

(1) Confirm that the computer's operating system has been properly installed.
(2) Confirm that a SCSI adapter has been connected to the computer.
(3) Confirm that the SCSI driver has been installed in the computer.

Connecting the CS1000EV/CS1100EV to a Computer for the First Time

■ **For Windows 95 or Windows 95 Version a:**
(the actual screen displayed may be different from the one shown, depending on which version of Windows 95 you have)

(1) After checking that the scanner and the computer are properly connected via the SCSI interface cable, turn on the scanner first and then turn on the computer.
(2) When Windows 95 has been booted, the window below appears.

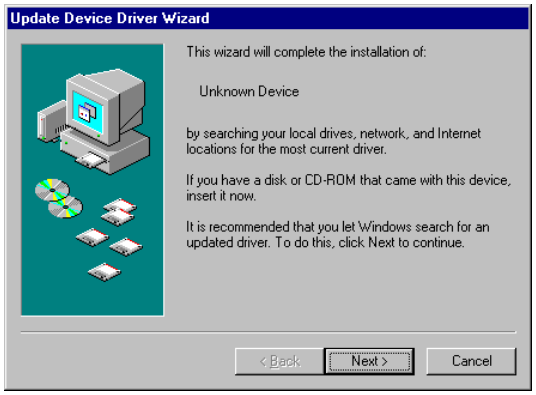
New Hardware Found
Unknown Device
Select which driver you want to install for your new hardware:
Windows default driver
Driver from disk provided by hardware manufacturer
Do not install a driver (Windows will not prompt you again)
Select from a list of alternate drivers
OK
Cancel
Help

(3) Select "Do not install a driver," then click the "OK" button.
(4) The Windows 95 Desktop appears and the CS1000EV/CS1100EV is acknowledged by the computer.

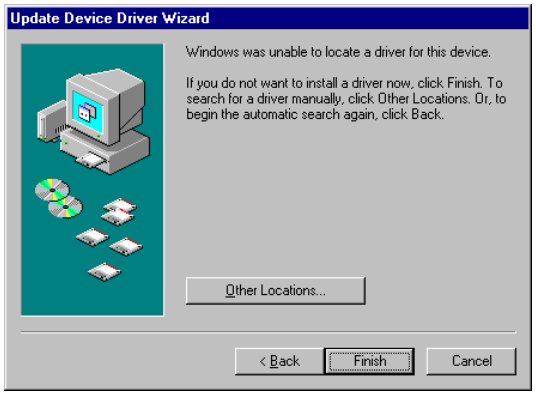
■ For Windows 95 Version B:

(the actual screen displayed may be different from the one shown, depending on which version of Windows 95 you have)

(1) After checking that the scanner and the computer are properly connected via the SCSI interface cable, turn on the scanner first and then turn on the computer.
(2) When Windows 95 has been booted, the window below appears.


Update Device Driver Wizard
This wizard will complete the installation of:
Unknown Device
by searching your local drives, network, and Internet locations for the most current driver.
If you have a disk or CD-ROM that came with this device, insert it now.
It is recommended that you let Windows search for an updated driver. To do this, click Next to continue.
< Back
Next >
Cancel

(3) Click the Next button to initiate the computer's search for a new driver.
(4) When the new driver has been detected, the menu below appears. Click the Finish button.

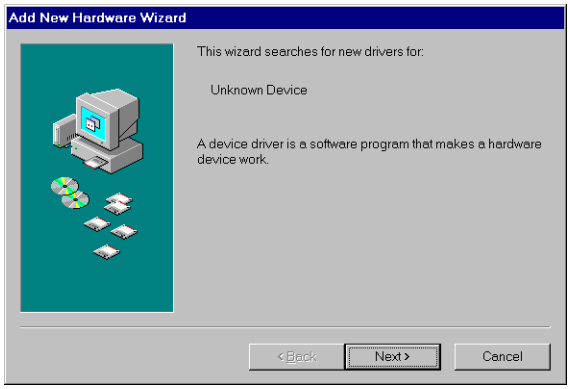

Update Device Driver Wizard
Windows was unable to locate a driver for this device.
If you do not want to install a driver now, click Finish. To search for a driver manually, click Other Locations. Or, to begin the automatic search again, click Back.
Other Locations...
< Back
Finish
Cancel

(5) The Windows 95 Desktop appears and the CS1000EV/CS1100EV is acknowledged by the computer.

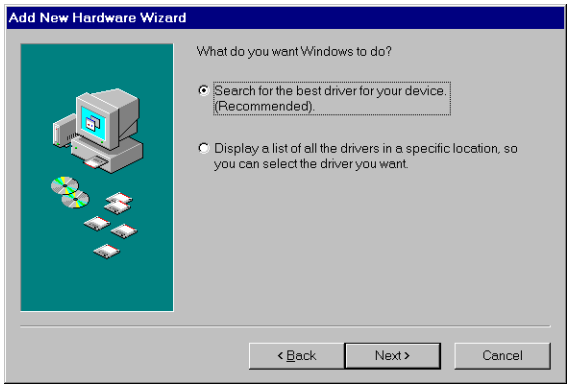
■ For Windows 98:

(1) After checking that the scanner and the computer are properly connected via the SCSI interface cable, turn on the scanner first and then turn on the computer.

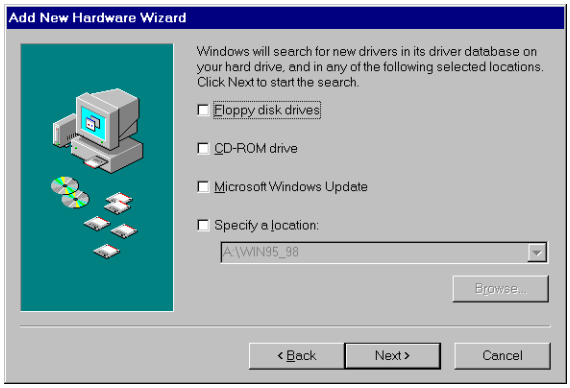
(2) When Windows 98 has been booted, the window below appears.


Add New Hardware Wizard
This wizard searches for new drivers for:
Unknown Device
A device driver is a software program that makes a hardware device work.
< Back
Next >
Cancel

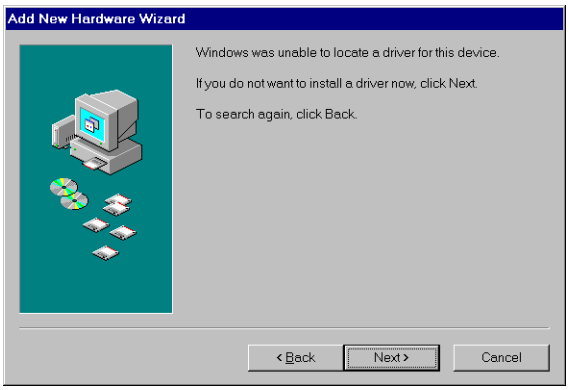
(3) Click the Next button.


Add New Hardware Wizard
What do you want Windows to do?
Search for the best driver for your device. (Recommended).
Display a list of all the drivers in a specific location, so you can select the driver you want.
< Back
Next >
Cancel

(4) Point to “Search for the best driver for your device” and then click the Next button.


Add New Hardware Wizard
Windows will search for new drivers in its driver database on your hard drive, and in any of the following selected locations. Click Next to start the search.
Floppy disk drives
CD-ROM drive
Microsoft Windows Update
Specify a location:
A:\WIN95_98
Browse...
< Back
Next >
Cancel

(5) Remove the check marks from all boxes and then click the Next button.


Add New Hardware Wizard
Windows was unable to locate a driver for this device.
If you do not want to install a driver now, click Next.
To search again, click Back.
< Back
Next >
Cancel

(6) Click the Next button.

(7) Click the Finish button.
(8) The Windows 98 Desktop appears and the CS1000EV/CS1100EV is acknowledged by the computer.

■ For Windows Me:

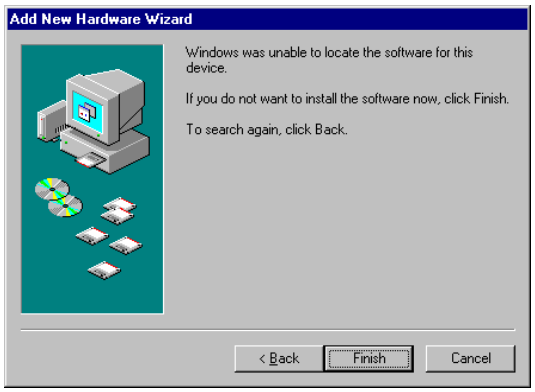
(1) Connect the CS1000EV/CS1100EV to the computer, turn on the CS1000EV/CS1100EV first, and then turn on the computer.

(2) Once Windows Me has started up, the window shown below is displayed.

Add New Hardware Wizard
Windows has found the following new hardware:
Unknown Device
Windows can automatically search for and install software that supports your hardware. If your hardware came with installation media, insert it now and click Next.
What would you like to do?
Automatic search for a better driver (Recommended)
Specify the location of the driver (Advanced)
< Back
Next >
Cancel

(3) Click on “Next” to search for the driver.

(4) Upon completion of the search for the driver, the window shown below is displayed. Click on the “Finish” button.


Add New Hardware Wizard
Windows was unable to locate the software for this device.
If you do not want to install the software now, click Finish.
To search again, click Back.
< Back
Finish
Cancel

(5) The Windows Me desktop is displayed, and the CS1000EV/CS1100EV is recognized by the computer.

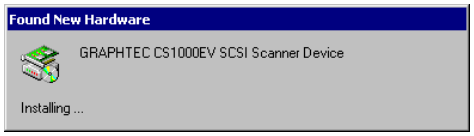
■ For Windows NT 4.0:

(1) After checking that the scanner and the computer are properly connected via the SCSI interface cable, turn on the scanner first and then turn on the computer.

■ For Windows 2000

(1) After connecting the CS1000EV/CS1100EV to the computer, turn on the CS1000EV/CS1100EV and then turn on the computer.

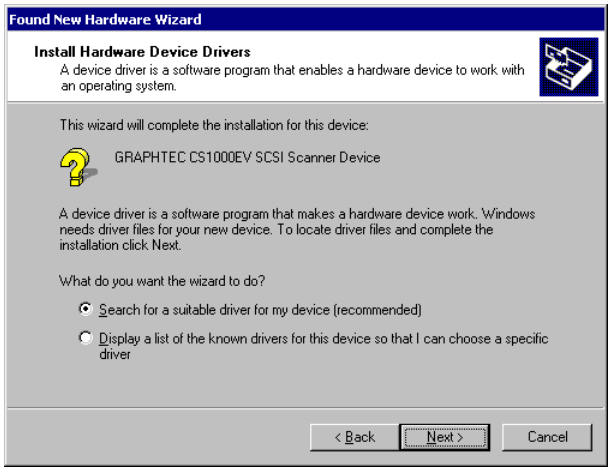
(2) When Windows 2000 boots, the message below appears.



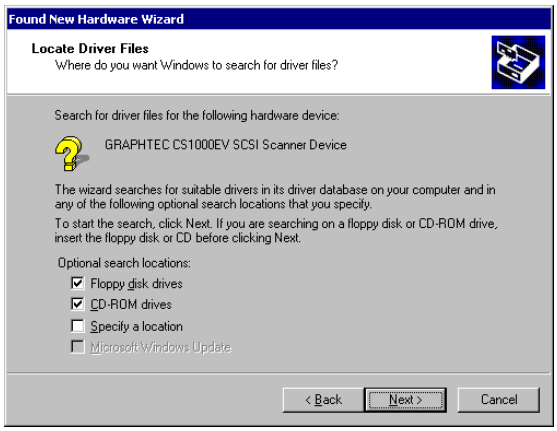
(3) Next, the Found New Hardware Wizard appears.

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install a device driver for a hardware device.
To continue, click Next.
< Back
Next >
Cancel

(4) Click the Next button to proceed to the menu for installing the driver.


Found New Hardware Wizard
Install Hardware Device Drivers
A device driver is a software program that enables a hardware device to work with an operating system.
This wizard will complete the installation for this device:
GRAPHTEC CS1000EV SCSI Scanner Device
A device driver is a software program that makes a hardware device work. Windows needs driver files for your new device. To locate driver files and complete the installation click Next.
What do you want the wizard to do?
Search for a suitable driver for my device (recommended)
Display a list of the known drivers for this device so that I can choose a specific driver
< Back
Next >
Cancel

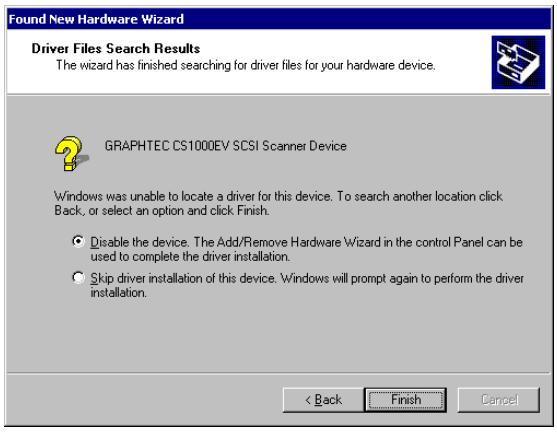
(5) Click the Next button to proceed to the Locate Driver Files menu shown below.


Found New Hardware Wizard
Locate Driver Files
Where do you want Windows to search for driver files?
Search for driver files for the following hardware device:
GRAPHTEC CS1000EV SCSI Scanner Device
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.
Optional search locations:
Floppy disk drives
CD-ROM drives
Specify a location
Microsoft Windows Update
< Back
Next >
Cancel

(6) Click the Next button to start searching for the driver files.

Found New Hardware Wizard
Driver Files Search Results
The wizard has finished searching for driver files for your hardware device.
GRAPHTEC CS1000EV SCSI Scanner Device
Search location:
F:\WINNT\inf
< Back
Next >
Cancel

(7) When the wizard has finished its search, the menu below appears.


Found New Hardware Wizard
Driver Files Search Results
The wizard has finished searching for driver files for your hardware device.
GRAPHTEC CS1000EV SCSI Scanner Device
Windows was unable to locate a driver for this device. To search another location click Back, or select an option and click Finish.
Disable the device. The Add/Remove Hardware Wizard in the control Panel can be used to complete the driver installation.
Skip driver installation of this device. Windows will prompt again to perform the driver installation.
< Back
Finish
Cancel

Insert a check in the “Disable the device” box, then click the Finish button.

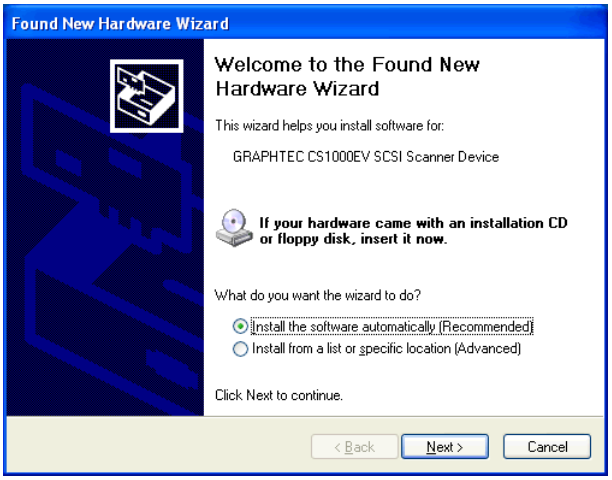
(8) The Windows 2000 Desktop appears and the CS1000EV/CS1100EV is acknowledged by the computer.

■ For Windows XP

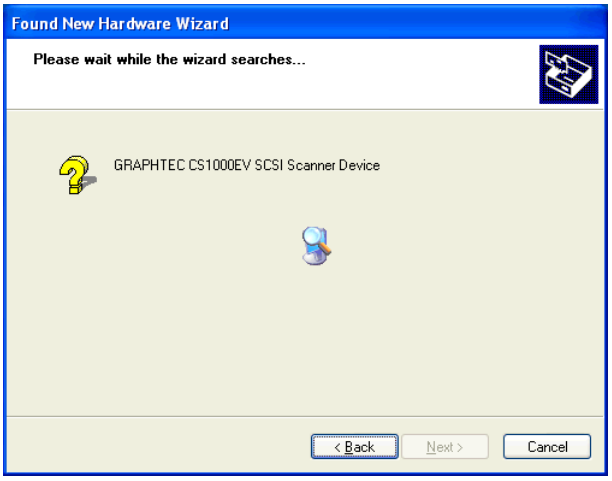
(1) Connect the scanner to the computer, turn on the scanner first, and then turn on the computer.

(2) When Windows XP starts up, the following window appears.

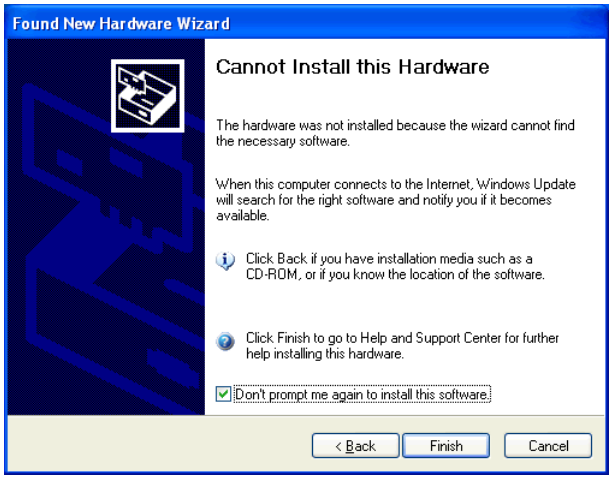
(3) Next, the Found New Hardware Wizard window appears.


Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
GRAPHTEC CS1000EV SCSI Scanner Device
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

(4) Click the Next button to proceed to the driver installation window.



(5) Once the computer finds the driver, the following window appears.
Turn on the Don't prompt me again to install this software check box. Then click the Finish button.


Found New Hardware Wizard
Cannot Install this Hardware
The hardware was not installed because the wizard cannot find the necessary software.
When this computer connects to the Internet, Windows Update will search for the right software and notify you if it becomes available.
Click Back if you have installation media such as a CD-ROM, or if you know the location of the software.
Click Finish to go to Help and Support Center for further help installing this hardware.
Don't prompt me again to install this software.
< Back
Finish
Cancel

(6) The Windows XP desktop appears, and the scanner is recognized by the computer.

3.7 Checking the Interface Connection

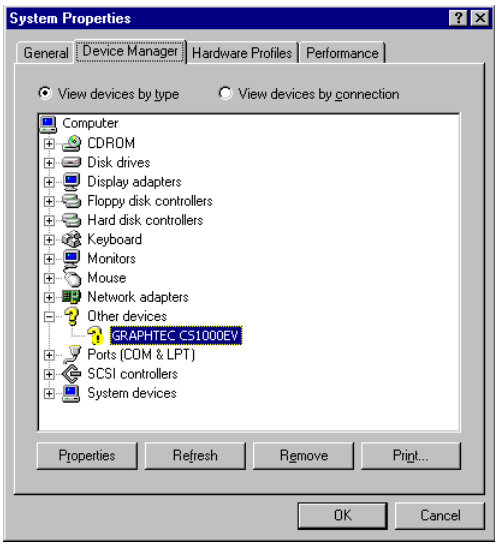
CHECKPOINT

If the scanner is connected to a system with Adaptec EZ-SCSI DELUXE* installed, the scanner will be recognized under “Scanner” in the Device Manager.

* EZ-SCSI DELUXE is the software included with the SCSI adapter. For details, see the SCSI adapter instruction manual.

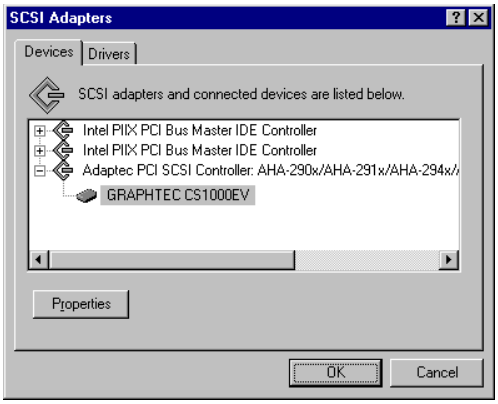
■ For Windows 95/98/Me

Open the System window from within the Control Panel in My Computer.
Click on the Device Manager tab to display the list of installed devices. Confirm that the scanner is recognized under “Other devices.”



■ For Windows NT 4.0:

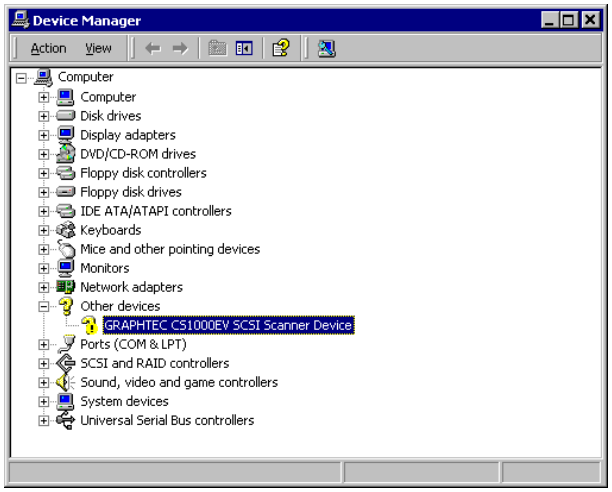
From the Control Panel window in the My Computer folder, boot the SCSI adapter. Select the SCSI adapter that is connected to the scanner by double-clicking it, then check that the scanner is listed below the SCSI adapter and is thus acknowledged.



■ For Windows 2000

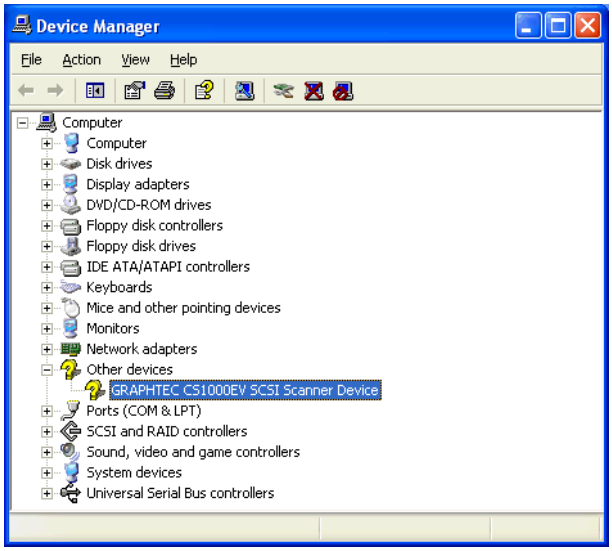
From the Control Panel folder in the My Computer directory, select the System icon. Next, click the Hardware tab and then click the Device Manager button to display a list of the installed devices.

Check that the scanner is acknowledged by the computer under “Other devices.”



■ For Windows XP

Select Control Panel from the Start Menu, and the n click Performance and Maintenance. Click System. Click the Hardware tab. Click the Device Manager button to list the devices. Check that the scanner recognized is listed under “Other devices”.



3.8 Installing the Scanning Master 21+ Application

The Scanning Master 21+ “OPS112” is a software application for using a Graphtec scanner to scan image data. The OPS112 User’s Manual is contained in the file name “OPS112-1.pdf”.

Operating Environment

Windows 95/Windows 98/Windows Me, Windows NT 4.0, or Windows 2000/XP.

Installation Procedure

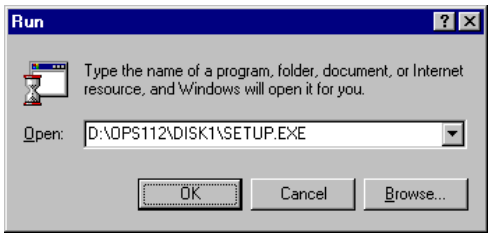
(The following steps are explained using the Windows 95 windows.)

(1) Boot Windows 95.

(2) Insert the CS1000 Series User Guide CD-ROM containing the OPS112 program files into the computer’s CD-ROM drive.

(3) Click the Taskbar’s Start button, then click the Run... icon.

(4) Enter the CD-ROM drive name and OPS112\DISK1\SETUP.EXE as the name of the file you wish to open. If the disk is in drive D, for example, enter “D:\OPS112\DISK1\SETUP.EXE” in the box.



(5) Click the OK button to run the OPS112 setup program. From this point on, follow the setup program’s instructions to install the OPS112 application.

- If the application has been properly installed, “Scanning Master 21+” will be newly listed in the Program menu accessed from the Start button.

NOTE

For more details, open the README.TXT file provided in the “Scanning Master 21+” folder.

3.9 Installing the Scanning Master Copy Color Application

The Scanning Master Copy Color "OPS116" is a software application for outputting image data scanned in by a Graphtec scanner to a plotter or printer.

Operating Environment
Windows 95/Windows 98/Windows Me, Windows NT 4.0, or Windows 2000/XP.

Installation Procedure
(The following steps are explained using the Windows 95 windows.)

(1) Boot Windows 95.

(2) Insert the CS1000 Series User Guide CD-ROM containing the OPS116 program files into the computer's CD-ROM drive.

(3) Click the Taskbar's Start button, then click the Run... icon.

(4) Enter the CD-ROM drive name and OPS116\DISK1\SETUP.EXE as the name of the file you wish to open. If the disk is in drive D, for example, enter "D:\OPS116\DISK1\SETUP.EXE" in the box.

(5) Click the OK button to run the OPS116 setup program. From this point on, follow the setup program's instructions to install the OPS116 application.

- If the application has been properly installed, "Scanning Master Copy Color" will be newly listed in the Program menu accessed from the Start button.

NOTE

For more details, open the README.TXT file provided in the "Scanning Master Copy Color" folder.

4. LOADING A DOCUMENT

This chapter describes the document types compatible with your scanner and procedures related to loading a document.

4.1 Compatible Document Types

Because the scanner scans a document while feeding it, the document types that it can scan are subject to the following restrictions.

- **Compatible Media Widths for Scanning**

  CS1000EV (Documents with a maximum width of 1000 mm)

Size	ISO	Size	ANSI
A4	210 mm × 297 mm	A	8.5 in × 11 in
A3	297 mm × 420 mm	B	11 in × 17 in
A2	420 mm × 594 mm	C	17 in × 22 in
A1	594 mm × 841 mm	D	22 in × 34 in
A0	841 mm × 1189 mm	E	34 in × 44 in

  CS1100EV (Documents with a maximum width of 630 mm)

Size	ISO	Size	ANSI
A4	210 mm × 297 mm	A	8.5 in × 11 in
A3	297 mm × 420 mm	B	11 in × 17 in
A2	420 mm × 594 mm	C	17 in × 22 in
A1	594 mm × 841 mm	D	22 in × 34 in

- **Compatible Media Lengths for Scanning**

  When loaded in the usual manner, a document with a maximum length of 4 meters can be scanned (due to restrictions such as the computer's available memory, the hard disk's storage capacity, and so on).

- **Compatible Grades & Thickness for Scanning**

  Media Grades

  The scanning precision is guaranteed for high-grade tracing paper (see "Working environment" in APPENDIX B, "SPECIFICATIONS").
  Other compatible media types are listed below.
  High-grade paper : 60 g/m^2
  Tracing paper : 50 to 55 g/m^2
  Mylar : 50 μm
  Copy paper
  Diazo photo-sensitive paper

Media Thicknesses

Observe the following points when scanning a thick medium.

- The CS1000EV/CS1100EV cannot scan a document that is thicker than 1.5 mm.
- When using the carrier sheet, ensure that the combined thickness of both the document and carrier sheet does not exceed 1.5 mm.
- The carrier sheet alone is 0.2 mm thick.

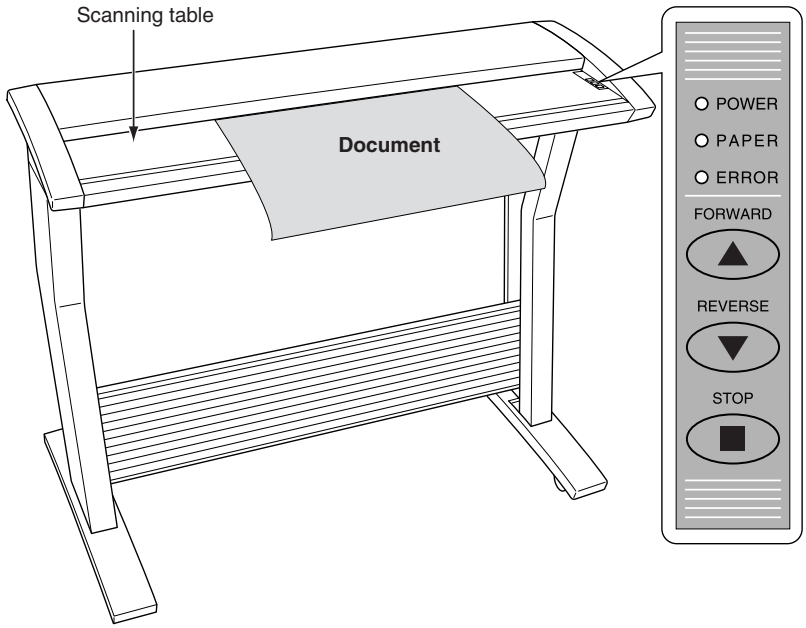
4.2 Loading a Document

For standard-size documents

Insert the document into the document-scanning table with the face to be scanned facing downward, so that it is aligned with the center section, to ensure that it is not scanned at an angle. The two modes described below are provided for loading the document (set from the driver software).

- The rollers start rotating after a preset delay time after the document is inserted, to automatically advance the document to the initial position for scanning.
- The rollers start rotating when the FORWARD switch is pressed on the control panel after the document is inserted, to automatically advance the document to the initial position for scanning (manual loading).

To reposition the document, press the REVERSE switch to remove it, and load it again.



The PAPER LED lights when a document has been loaded in the scanner.

NOTE

If the PAPER LED does not light after the document feed operation has stopped, press the FORWARD key to advance the document again.

CHECKPOINT

After the scanner is turned on and the driver settings have been enabled in the Scan window, it waits for approximately two seconds before beginning the specified scan operation.

Load the document in the scanner with the face to be scanned facing downward. Do not place anything other than the document to be scanned on the scanning table, as the scanner rollers may start rotating, which is extremely dangerous.

The document may not be fed in correctly if it is curled. The carrier sheet provided should be used for curled documents (see Section 4.3, “Using the Carrier Sheet” for details).

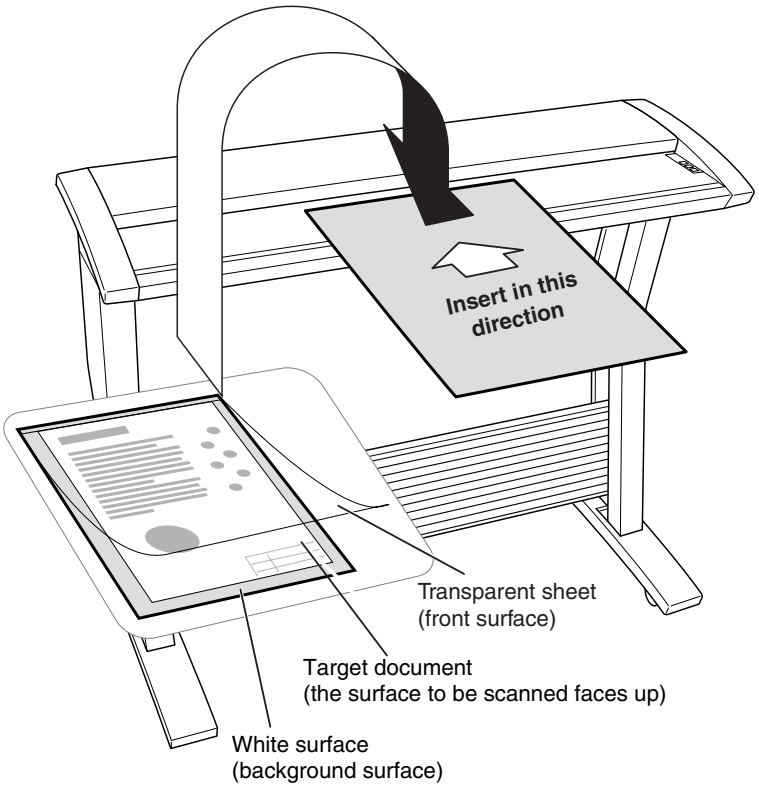
Load the document in the center of the scanner, as the document may be fed in at an angle and not scanned correctly if it is significantly off-center.

4.3 Using the Carrier Sheet

Use the carrier sheet according to the condition of the document to be scanned.
In the case of scanning the following types of media, always place the document on the carrier sheet before loading it into the scanner.

- To scan a medium that is as limp or limper than a newspaper
- To scan a document that is smaller than A4 size or a document of non-standard size
- To scan a medium that tears easily
- When the target document cannot be properly advanced to the initial position of scanning (because the target document is folded, wrinkled, or otherwise hard to load in the scanner)
- To scan transparent or translucent documents

As shown in the figure below, place the document in the carrier sheet with the document's surface to be scanned facing up (against the transparent top sheet). For scanning, load the carrier sheet into the scanner with the document's target surface (the transparent top sheet) facing down.



CHECKPOINT

When handling the carrier sheet, be very careful not to scratch it or otherwise damage it.

4.4 Using the EV Document Hold-Down Unit

The EV document hold-down unit (the unit with silver handle-rings at the ends) should be used with certain document types as explained below. The EV document hold-down unit is usually mounted on the two stock brackets which are hooked onto the stand's center bar (CS1000EV and CS1100EV model mounted on the optional stand). When you want to use the EV unit, remove the standard document hold-down unit from the scanner, replace it with the EV unit, and then store the standard unit on the stock brackets instead. If you have a CS1100EV model without the optional stand, store the document hold-down unit that is not in use in its original box.

Please use the EV document hold-down unit with the following document types:
- Plain paper with a thickness of 0.08 mm or higher
- Documents with creases or strongly curled documents where the creases or curl affect the overall scanning quality

⚠ CAUTION

Do not use the EV document hold-down unit with paper less than 0.08 mm thick or with limp documents, as the document may become damaged or jammed in the scanner. The EV document hold-down unit has a stronger hold-down force than that of the standard unit, and may cause damage to thin documents. Use the carrier sheet when scanning film documents or similar. In addition, because the precision accuracy also differs, a distance correction operation will need to be performed.

< Distance Correction Method >
Distance Correction is performed using the Scanning Master 21+ software. Select **Adjust Scanner** from the **Tools** menu to correct the distance as appropriate for the type of document.

Replacing the Standard Document Hold-down Unit with the EV Unit

Remove the standard document hold-down unit from the scanner, and replace it with the EV document hold-down unit. For details, please refer to Section 4.5, "Removing the Document Hold-Down Unit" and Section 4.6, "Mounting the Document Hold-Down Unit" in this manual.

CHECKPOINT

The handle-rings at both ends of the EV Document hold-down unit are silver. The handle-rings at both ends of the standard document hold-down unit are black. Take care not to confuse the two units.
The document hold-down unit has a symmetrical shape, so it is physically possible to mount it with its left and right sides reversed. Because the scanner's precision has been adjusted before shipment from the factory, however, the document may jam if the unit is mounted in reverse.

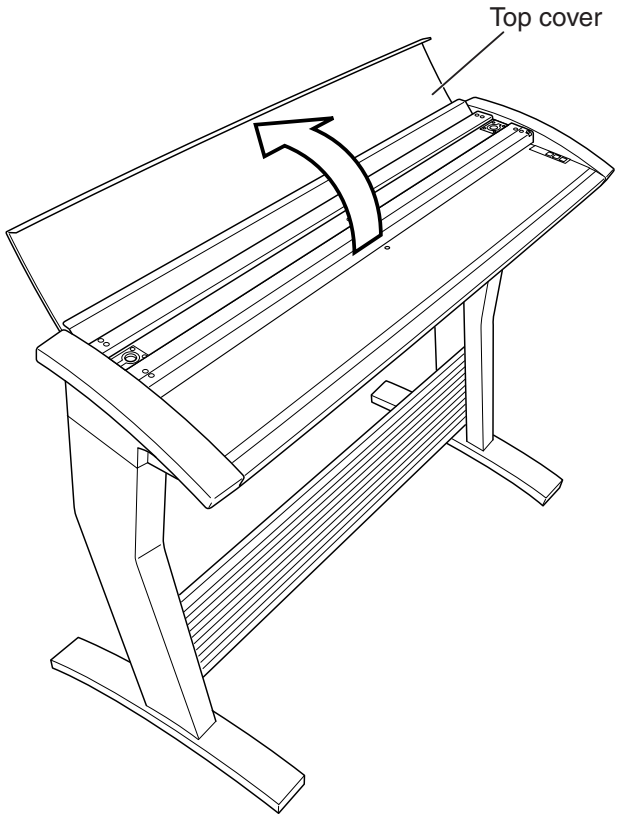
4.5 Removing the Document Hold-Down Unit

To clean the scanner, you must first remove the document hold-down unit. It is also necessary to remove the document hold-down unit to remove a jammed document.

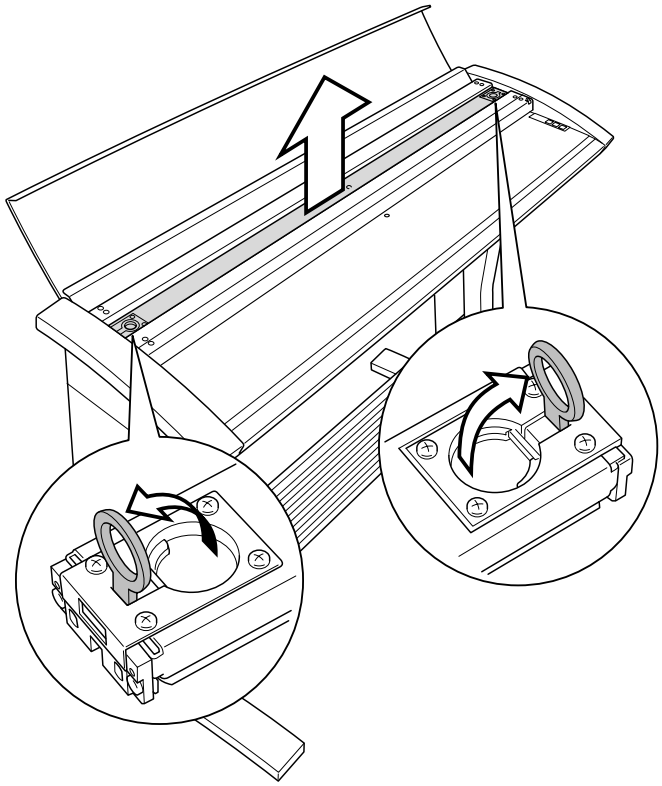
Procedure

(1) Turn off the scanner.

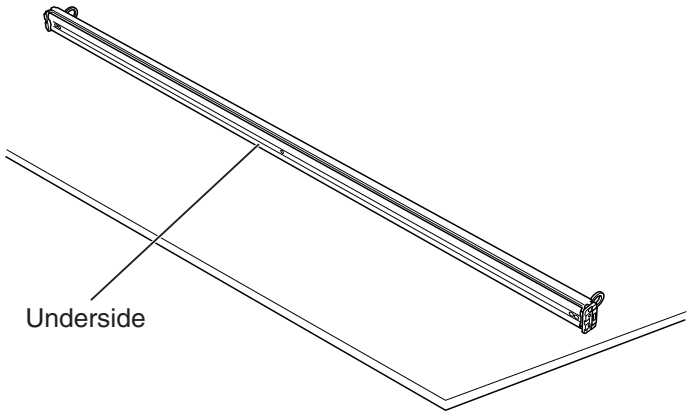
(2) Open the top cover, holding it in the center.



(3) From inside the scanner, lift up the handle-rings provided at each side of the document hold-down unit in order to lift the document hold-down unit up and off.



(4) With its bottom surface facing the side, place the removed document hold-down unit on a stable surface.

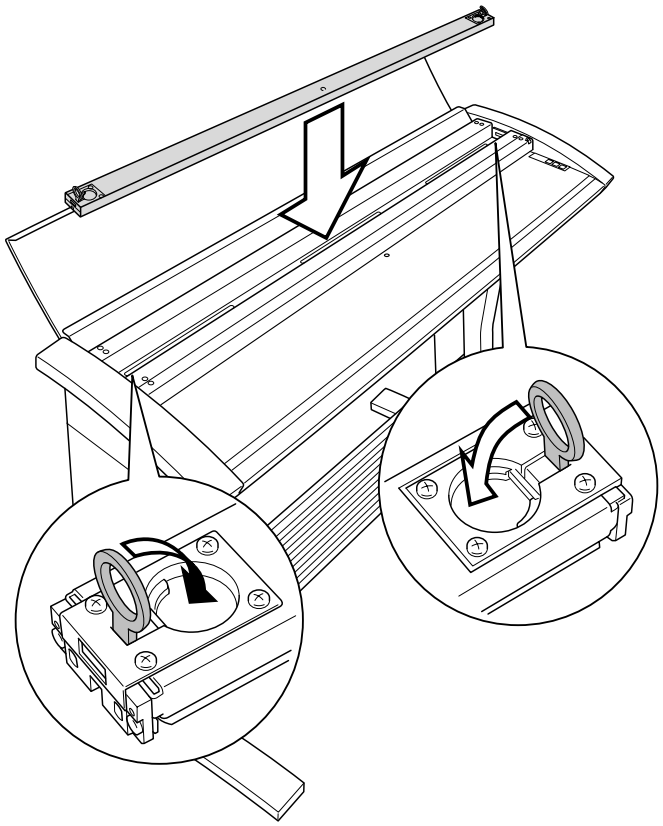


TIP

Scanning may be affected if the underside of the document hold-down unit becomes scratched or dirty (see Section 5.3, “Cleaning the Document Hold-Down Unit” for details).

4.6 Mounting the Document Hold-Down Unit

(1) While holding the document hold-down unit by the handle-ring at each side, lower the document hold-down unit straight down into the scanner.



(2) Push down the handle-rings on each side of the document hold-down unit.
(3) Close the top cover, holding it in the center.

NOTE

The document hold-down unit has a symmetrical shape, so it is physically possible to mount it with its right and left sides reversed. Because the scanner's precision has been adjusted before shipment from the factory, however, its reading precision will decrease extremely if you mount the document hold-down unit in reverse.
Before mounting the document hold-down unit, be sure to check its proper orientation as indicated on the seals attached to the scanner and the document hold-down unit.
Fully insert the document hold-down unit to the bottom end. If the document hold-down unit is not pressed down, this will result in reduced image quality and paper jamming.

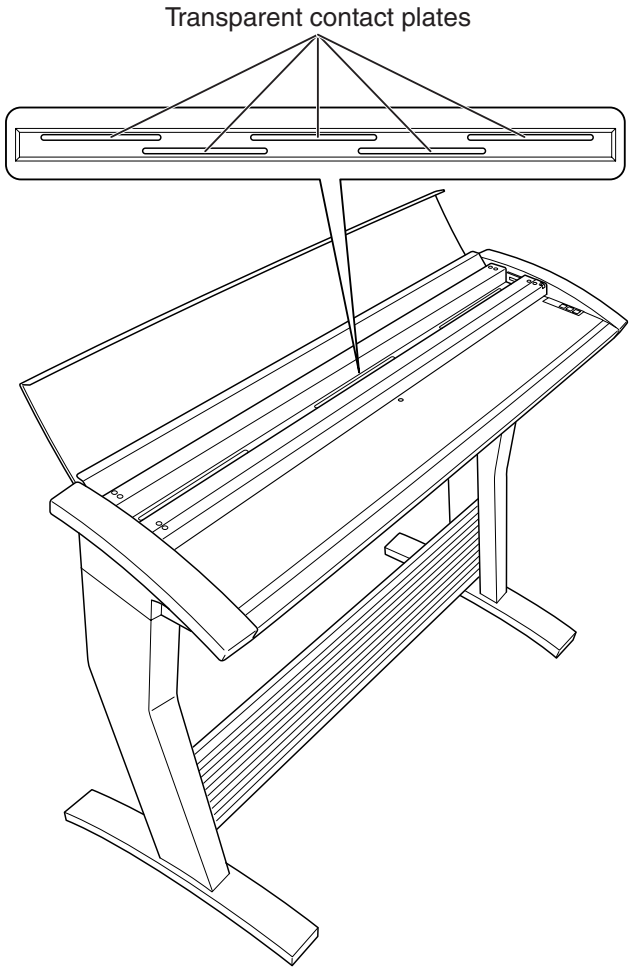
5. DAILY MAINTENANCE

5.1 Cleaning the Image Sensors

The scanner's image quality drops when the transparent contact plates over the image sensors become dirty, so clean the image sensors whenever necessary.

Procedure

(1) Turn off the scanner.
(2) Remove the document hold-down unit as described in Section 4.5, "Removing the Document Hold-Down Unit."
(3) As shown below, wipe off any soiled areas on the transparent contact plates using a soft cloth that has been moistened with water or a neutral detergent (diluted with water) and firmly wrung out.



(4) Completely remove any moisture on the transparent contact plates by wiping them off again using a soft, dry cloth.
(5) Mount the document hold-down unit as described in Section 4.6, “Mounting the Document Hold-Down Unit.”

⚠ CAUTION

Do not use a commercial cleaner for office equipment, a glass cleaner, or chemical solvents such as solutions containing alcohol.

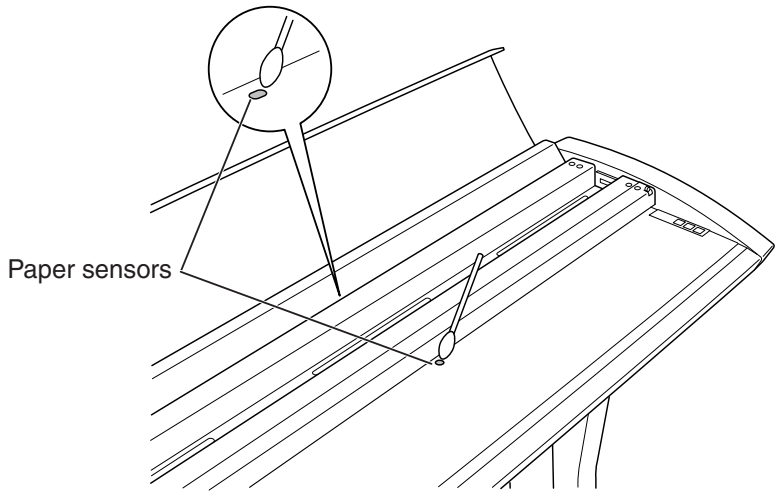
CHECK

Although the glass scanning table is not a maintenance part that requires periodic replacement, it is a consumable part because its surface may receive slight scratches due to minute particles of dust and other foreign matter. If document scanning produces unsatisfactory results (unexpected white or black streaks in the data) due to scratches on the glass table or other reasons, the glass table will be replaced for no charge while the service warranty is in effect but will be replaced for a charge after the service warranty has expired. To request replacement, contact your nearest Graphtec vendor.

5.2 Cleaning the Paper Sensors

Accumulated dust on the paper sensors may prevent the document from being detected. The sensors must be cleaned when necessary.

(1) Turn off the scanner.
(2) Open the top cover, holding it in the center.
(3) Wipe the two paper sensors using a cotton swab.

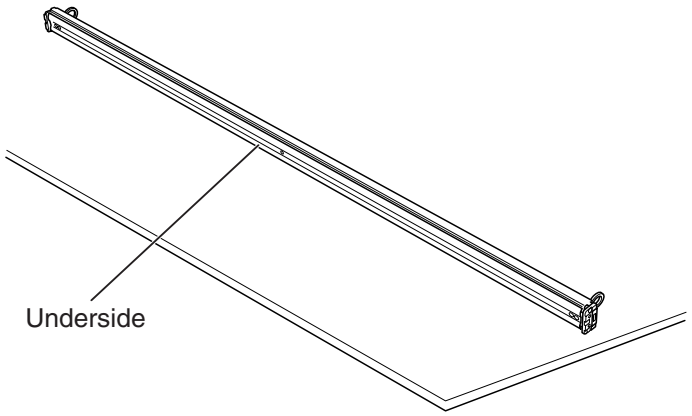


(4) Close the top cover, holding it in the center.

5.3 Cleaning the Document Hold-Down Unit

Scanning may be affected if the underside of the document hold-down unit becomes scratched or dirty. It must be cleaned when necessary.

(1) Turn off the scanner.
(2) Remove the document hold-down unit as described in Section 4.5, “Removing the Document Hold-Down Unit.”
(3) Wipe clean the underside of the document hold-down unit (see below) using a soft cloth that has been soaked in water or diluted neutral detergent and thoroughly wrung out.



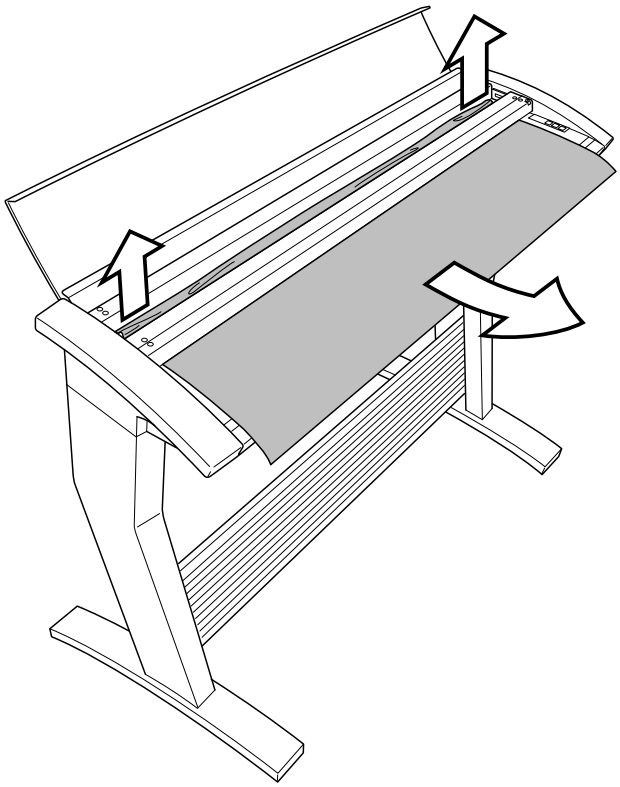
(4) Wipe the document hold-down unit once again using a soft, dry cloth (remove all moisture).
(5) Reattach the document hold-down unit as described in Section 4.6, “Attaching the Document Hold-Down Unit.”

5.4 Removing a Jammed Document

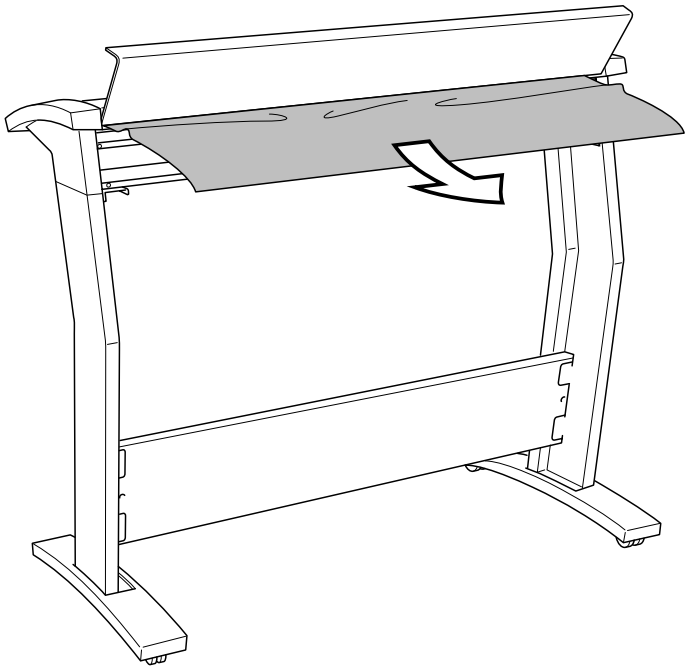
If a document becomes jammed in the scanner during scanning or another operation, immediately turn off the scanner, remove the document hold-down unit, and then remove the jammed document.

Procedure

(1) Turn off the scanner.
(2) Remove the document hold-down unit as described in Section 4.5, “Removing the Document Hold-Down Unit.”
(3) If the document is jammed at the front, remove the document from the inside or by pulling it forward.



(4) If the document is jammed at the rear, remove the document from the inside by pulling it toward the rear.



(5) Reattach the document hold-down unit as described in Section 4.6, “Attaching the Document Hold-Down Unit,” and close the top cover.

5.6 Calibration

Calibrate the scanner if scanning quality is observed to deteriorate, with scanned results such as those described below:

- The scanned image is distorted
- Areas of uneven color appear in the scanned image
- Other unsatisfactory results (but not including problems related to media quality, such as folds, wrinkling, or paper curling)

CAUTION

- Handle the calibration sheet with care so that it does not get bent. To prevent soiling, store it in its special storage box. The calibration sheet cannot be used if it is bent or soiled.
- The calibration sheet is a paper product. Do not attempt to clean it with any type of liquid cleaner.
- The calibration sheet is a consumable item. Replacement sheets can be purchased from your sales representative or nearest Graphtec vendor.

Preparation and checks

Recommended usage environment

◆ **Monitor: 1024 × 768 pixels, High Color or better resolution**

TIP

A low-resolution monitor will make it difficult to discern any problem areas.

Launching the Scanner Adjustment Program

(1) Connect the scanner to the PC and switch on the scanner. Switch on the PC.

(2) Install Scanning Master 21+ (OPS112) if it is not already installed.

(3) Click the **Start** button, then select **Programs** > **Scanning Master 21+** > **Scanner Adjustment**.

(4) Click **Scanner Adjustment** to launch the **Scanner Adjustment** program.

Scanner Calibration

Before beginning calibration, clean the scanner glass and scanner table surface. Any dust or dirt on this surface may affect calibration results and resulting image quality. Check that the calibration sheet is free of any dust or dirt.

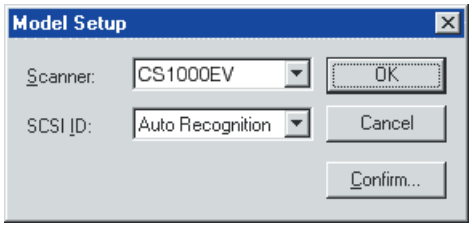
⚠ CAUTION

The calibration procedure will take some time. Do not switch off the scanner while calibration is underway. Accidentally switching off the scanner may result in damage that requires servicing.

(1) Connect the scanner to the computer. Switch on the scanner, then switch on the PC.

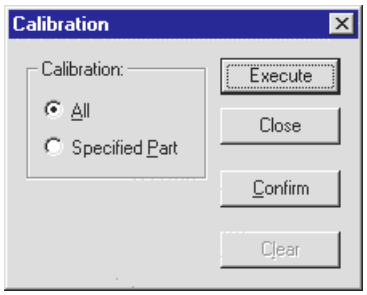
(2) Launch the **Scanner Adjustment** program (as described earlier).

(3) Select **Model Setup** on the **Scanner** menu.



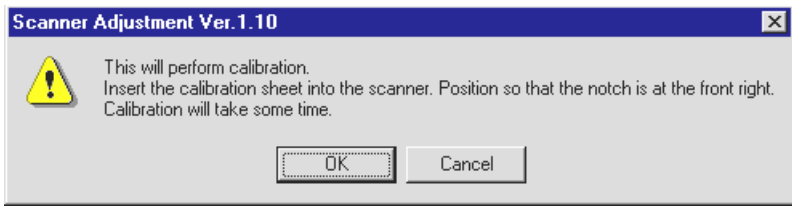
(4) Select the connected scanner and click the **OK** button.

(5) Select **Calibration** on the **Scanner** menu.

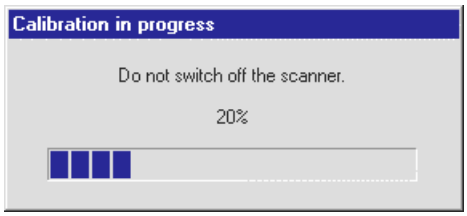


(6) Select **All** in **Calibration** and click the **Execute** button.

(7) The following message is displayed. Insert the calibration sheet into the scanner as instructed.


Scanner Adjustment Ver.1.10
This will perform calibration.
Insert the calibration sheet into the scanner. Position so that the notch is at the front right.
Calibration will take some time.
OK
Cancel

(8) Clicking the **OK** button begins calibration.

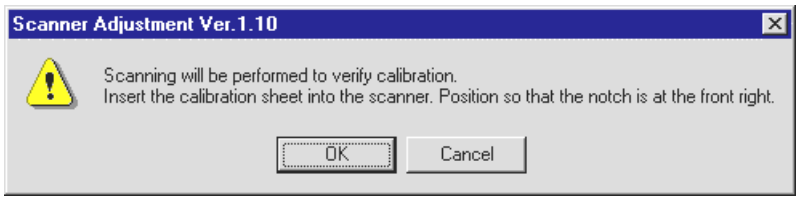


(9) Calibration ends after approximately 30 minutes.

Click the **OK** button to complete calibration.

(10) To check the calibration results, click the **Confirm** button in the **Calibration** menu (shown in step (5) above).

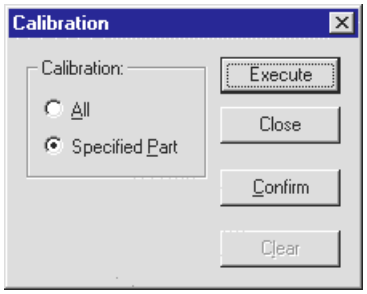
(11) The following message is displayed. Insert the calibration sheet into the scanner as instructed.


Scanner Adjustment Ver.1.10
Scanning will be performed to verify calibration.
Insert the calibration sheet into the scanner. Position so that the notch is at the front right.
OK
Cancel

(12) Click the **OK** button to start scanning.
The scanned data is displayed when scanning is complete. Colors may differ slightly for individual sensors to make it easier to identify problem areas in calibration. This does not indicate a defect.
Check that there are no vertical streaks, such as white patches, in the scanned data. (Streaks occur when calibration is not performed correctly due to contamination by dust or dirt.)

(13) If the data is normal, calibration is complete.
Click the **Close** button and exit the **Scanner Adjustment Program**.

(14) If any abnormal data is observed, specify the problem areas as follows:
Select **Specified Part** in **Calibration**.



(15) The mouse arrow cursor changes to a cross cursor when moved over the data. Click the left mouse button with the mouse positioned over the streak data. The selected area is shown in blue. Repeat this procedure for any additional streaks. Areas that have been selected (shown in blue) can be deselected by clicking the left mouse button again. To deselect all selected areas, click the **Clear button**.

(16) Once all required areas have been specified, remove the calibration sheet and clean the glass and table surfaces. Check the calibration sheet for dust and dirt, then click the **Execute** button**.**

(17) Return to step (10) and verify the calibration results.

⚠ CAUTION

If you perform the calibration procedure several times with no discernible results, there may be a problem with the scanner itself. In this case, please contact your Graphtec vendor.

6. TROUBLESHOOTING PROCEDURES

If the scanner seems to be operating abnormally, perform the troubleshooting procedures described in this chapter before requesting a service call.

6.1 The Scanner Is Turned On But Doesn't Operate at All

Cause	Remedy
The power cord has come loose.	Firmly connect both plugs of the power cord.
The scanner is connected to an electrical socket that does not provide the rated supply voltage.	Use only the rated supply voltage.
The electrical socket is not supplying a supply voltage.	Check the power supply.

6.2 The Scanner Operates Improperly After Connection to the Computer

Cause	Remedy
The SCSI cable is not properly connected to the computer and/or the scanner.	Firmly insert the cable's connectors until they lock into place.
The SCSI adapter used is not compatible with high-speed data transfer (SCSI-3 or higher).	Change the SCSI transfer rate (Maximum Sync Transfer Rate) to 10 MB/s. For details, refer to the SCSI adapter instruction manual.
The SCSI cable connecting the computer to the scanner is faulty.	Confirm that there is no fault with SCSI cable connectors (broken or bent pins). Fully insert the SCSI cable until it locks.
The SCSI terminator has not been activated.	If the scanner will serve as a terminal within the network configuration, set Bit 4 of the scanner's DIP switch to enable the internal terminator function.
The SCSI-ID number is incorrectly set.	Set the scanner's ID number to one that is different from other devices in the network (see Section 3.4, "Setting the ID Number").
The SCSI cable's overall length exceeds 3 meters.	Use a SCSI cable that is no longer than 3 meters.

CHECKPOINT

The factory-preset default of the SCSI-ID setting is 2.

The scanner is recognized as connected by the operating system (in the Device Manager), but the message “Scanner not found” is displayed in Scanning Master 21+ and the scanner cannot be connected.

Cause	Remedy
The “Model Setup” settings are not correctly set in Scanning Master 21+.	Set the “Model Setup” settings in Scanning Master 21+ to “CS1000EV” or “CS1100EV.” For details, refer to the Scanning Master 21+ User’s manual.
(Windows NT 4.0 and Windows 2000/XP only)	
The SCSI adapter device driver (ASPI32) is not correctly installed.	**(For Windows NT 4.0)** If EZ-SCSI is provided with the SCSI adapter: Install EZ-SCSI provided with the SCSI adapter. For details, refer to the SCSI adapter instruction manual. **(For Windows 2000/XP)** If EZ-SCSI is provided with the SCSI adapter: EZ-SCSI provided with the SCSI adapter is not compatible with Windows 2000/XP. Obtain the device driver (ASPI32) from Adaptec, and install it. If you have any inquiries, contact Adaptec. **(For both Windows NT 4.0 and Windows 2000/XP)** If a device driver (ASPI32) is not provided with the SCSI adapter: A device driver (ASPI32) is required. Obtain the device driver (ASPI32) from Adaptec, and install it. If you have any inquiries, contact Adaptec.

6.3 The Control Panel’s Red ERROR Lamp Is Lit

Cause	Remedy
A hardware error at the ROM, RAM, etc. occurred during the scanner’s self-test.	An internal error has occurred. Contact your sales representative or nearest Graphtec vendor.

6.4 The Control Panel's Red ERROR Lamp Is Flashing

Cause	Remedy
The scanner was turned on with a document left loaded inside it.	Open the cover and remove the document (see Section 5.4, "Removing a Jammed Document").
The top cover was opened during a scanning operation or while a document was left in the scanner.	Press the control panel's STOP button to cancel the error state. Next, remove the document by pressing the FORWARD/REVERSE button to advance the document.

6.5 The Document Isn't Properly Fed to the Initial Scanning Position

Cause	Remedy
The target document is curled up, wrinkled, too thin, or otherwise poorly suited to proper feeding.	Load the document after placing it inside the carrier sheet provided (see Section 4.3, "Using the Carrier Sheet").
You are using the EV document hold-down unit when you should be using the standard hold-down unit for a thin document.	Replace the EV hold-down unit with the standard unit, or, place the document in the carrier sheet provided as a standard accessory.

6.6 After Scanning, Image Data Becomes Black or White

Cause	Remedy
The document was loaded with its target surface facing up instead of down.	Load it in the scanner with its target surface (the surface to be scanned) facing down.
The Threshold Value setting was inappropriate for the target document.	Set the Threshold Value setting again (it can be controlled from the scanning software provided).

6.7 The Image Quality Has Dropped

Cause	Remedy
The document hold-down unit is not inserted correctly.	Open the top cover and check the document hold-down unit.
The transparent contact plates over the image sensors are dirty	Clean the transparent contact plates (see Section 5.1, "Cleaning the Image Sensors")
The carrier sheet is not used with transparent or translucent documents.	Use the carrier sheet.

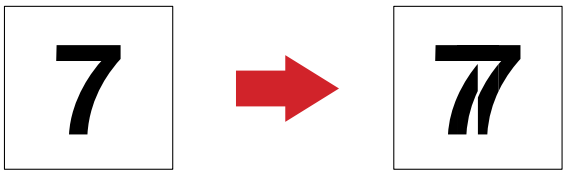
6.8 The Input Image Data Is Incorrectly Aligned

Cause	Remedy
The data is misaligned at a joint between the image sensors. (see the figure on page 6-5)	After opening the Tools menu of the driver program (Scanning Master 21+ driver) provided with your scanner, select the Joint Adjustment function then perform adjustment to achieve a seamless image.

CHECK

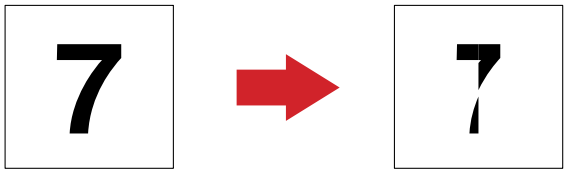
Your scanner comes shipped from the factory after being adjusted for high precision. Due to its operating environment or other factors, however, the scanning precision may deviate in very rare cases.
Moreover, fine adjustment to correct such deviation can be performed using the driver software if the deviation causes are overlapped or missing data.

● **Overlapped data**



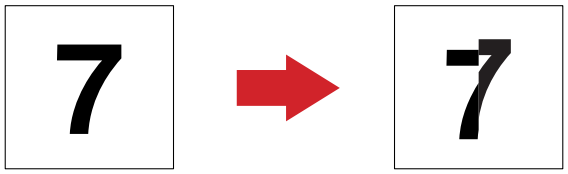
Original document　　Data overlaps

● **Missing data**

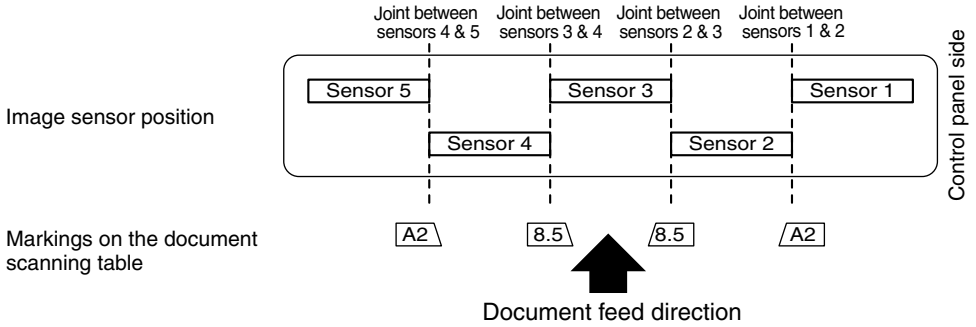


Original document　　Data is missing

● **Deviation due to scanner specifications**



Original document　　Deviation caused by specifications



Example: CS1000EV

NOTE

Because the document is loaded face down, Sensor 1 is the leftmost sensor in the driver software's display windows.

6.9 Smudges Not Appearing in the Original Document Appear in the Scanned Data

Cause	Remedy
The image scanned has a glossy surface, such as a photograph.	Documents with a glossy surface should be scanned by placing them inside the carrier sheet provided.

6.10 The Image-Data Color Intensity Differs

Cause	Remedy
The scanner contains five closely-adhered sensors, the characteristics of which have been adjusted. However, some variation in color intensity may occur, depending on the type of document scanned.	Adjust the color using the color-correction function in the driver software provided. One adjustment method is to make similar colors all the same color.
The document scanned was creased or curled.	Creased or curled documents should be scanned by placing them inside the carrier sheet provided.

6.11 The Document Length Differs from the Scanned Data Length

Cause	Remedy
Distance correction adjustments have been made to ensure scanning precision for a document of a different paper type. The scanning precision varies according to the type of document.	After opening the Tools menu of the driver program (Scanning Master 21+) provided with your scanner, select the Distance Correction function to adjust the precision.

6.12 Stripes or Moire Patterns Which Are Not in the Original Document Appear in the Scanned Data

Cause	Remedy
The scanned document contains filled or shaded areas.	Depending on the resolution selected, data that is comprised of filled or shaded areas may be scanned in as stripes or moire patterns. This is not due to a scanner malfunction.

APPENDIX A. OPTIONAL AND MISCELLANEOUS ITEMS

Optional items can be obtained from your sales representative or nearest Graphtec vendor.

Optional items

Code	Item name
OPS115-KIT-E	Software to upgrade OPS112 Scanning Master 21+ to OPS115 Scanning Master Pro Color
PG0010	Media basket for the CS1000EV model
ST0038	Stand with media basket for the CS1100EV model

Accessories: SCSI cables

Code	Item name
SC0006	Double-ended half-pitch pin type (3 m)
SC0006 2M	Double-ended half-pitch pin type (2 m)

Consumables

Code	Item name
IS0908	Carrier sheet (A1)
IS0907	Carrier sheet (A0)

APPENDIX B. STANDARD SPECIFICATIONS

Item	CS1000EV
Document size	ANSI E to ISO A4 (all sizes centered)
Effective scanning area	Width : 914 mm (max. 1000 mm) Length : 1188 mm (capable of long-length scanning up to approximately 4 m)*1
Document thickness	1.5 mm or less (including the carrier sheet)*2
Optical resolution	600 dpi
Interpolated resolution	Main scanning direction : 200 dpi, 300 dpi, 400 dpi, 600 dpi Secondary scanning direction : 200 dpi, 300 dpi, 400 dpi, 600 dpi, 800 dpi
Main scanning system	Contact image sensor system
Sub scanning system	Document travel (sheet through) system
Scanning speed*3	Monochrome: Approx. 1.3 ms/line 3.8 inch/s at 200 dpi 1.9 inch/s at 400 dpi 1.26 inch/s at 600 dpi Color: Approx. 3.9 ms/line 1.28 inch/s at 200 dpi 0.64 inch/s at 400 dpi 0.42 inch/s at 600 dpi
Scanning precision*4	±0.1%, ±5 pixels
Gradation	Monochrome: Bilevel, intermediate tones (dithering, error diffusion) Gray: 256 shades Color: 256 colors
Light source	LED (RGB)
Interface	SCSI-2
Rated power supply	100 to 120/200 to 240 VAC ±10%, 50/60 Hz
Operating environment	Temperature: 10°C to 35°C, Humidity: 35% to 80% RH (no condensation)
Power consumption	115 VA or less
External dimensions (approx.)	1205 × 1020 × 600 mm (W×H×D) (including stand)
Weight	Approx. 48 kg (including stand)

*1 Documents up to approximately 4 m in length can be scanned. (Mechanical restriction)
For long-length documents, the document length that can be scanned is limited by the available memory (hard disk or other data storage device) of the host computer to which it is connected, and also by the grade of the medium being scanned.

*2 Carrier sheet thickness: 0.2 mm

*3 Excluding data-transfer time

*4 Notes on scanning precision
Scanning precision may vary slightly depending on the grade and thickness of the medium being scanned, and on the operating conditions. The precision figures above were measured under the operating conditions described below.
- Document hold-down unit : Standard unit
- Test chart used : Mylar sheet (thickness: 55 μm)
- Guaranteed precision conditions : Temperature 20 ±3°C; humidity: 60% ±10% RH
- Guaranteed scanning precision range : 1188 mm × 841 mm

Item	CS1100EV
Document size	ANSI D to ISO A4 (all sizes centered)
Effective scanning area	Width : 594 mm (max. 630 mm) Length : 841 mm (capable of long-length scanning up to approximately 4 m)*1
Document thickness	1.5 mm or less (including the carrier sheet)*2
Optical resolution	600 dpi
Interpolated resolution	Main scanning direction : 200 dpi, 300 dpi, 400 dpi, 600 dpi Secondary scanning direction : 200 dpi, 300 dpi, 400 dpi, 600 dpi, 800 dpi
Main scanning system	Contact image sensor system
Sub scanning system	Document travel (sheet through) system
Scanning speed*3	Monochrome: Approx. 1.3 ms/line 3.8 inch/s at 200 dpi 1.9 inch/s at 400 dpi 1.26 inch/s at 600 dpi Color: Approx. 3.9 ms/line 1.28 inch/s at 200 dpi 0.64 inch/s at 400 dpi 0.42 inch/s at 600 dpi
Scanning precision*4	±0.1%, ±3 pixels
Gradation	Monochrome: Bilevel, intermediate tones (dithering, error diffusion) Gray: 256 shades Color: 256 colors
Light source	LED (RGB)
Interface	SCSI-2
Rated power supply	100 to 120/200 to 240 VAC ±10%, 50/60 Hz
Operating environment	Temperature: 10°C to 35°C, Humidity: 35% to 80% RH (no condensation)
Power consumption	115 VA or less
External dimensions (approx.)	850×381×169 mm (W×H×D)
Weight	Approx. 24 kg

*1 Documents up to approximately 4 m in length can be scanned. (Mechanical restriction)
For long-length documents, the document length that can be scanned is limited by the available memory (hard disk or other data storage device) of the host computer to which it is connected, and also by the grade of the medium being scanned.

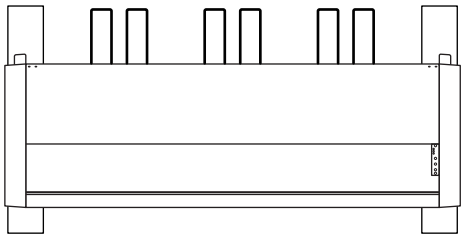
*2 Carrier sheet thickness: 0.2 mm

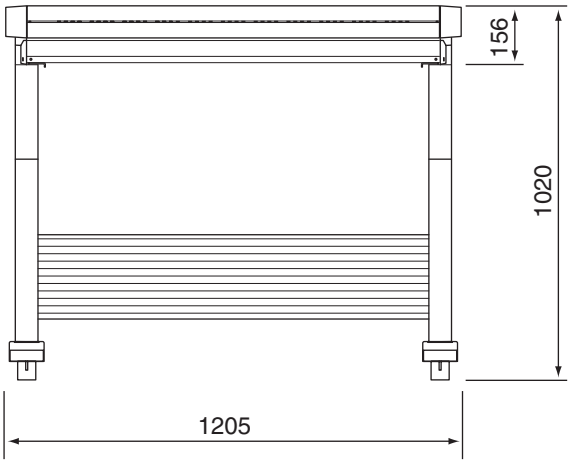
*3 Excluding data-transfer time

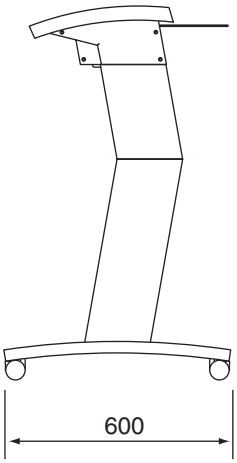
*4 Notes on scanning precision
Scanning precision may vary slightly depending on the grade and thickness of the medium being scanned, and on the operating conditions. The precision figures above were measured under the operating conditions described below.
- Document hold-down unit : Standard unit
- Test chart used : Mylar sheet (thickness: 55 μm)
- Guaranteed precision conditions : Temperature 20 ±3°C; humidity: 60% ±10% RH
- Guaranteed scanning precision range : 594 mm × 841 mm

APPENDIX C. EXTERNAL VIEW

External Dimensions of the CS1000EV

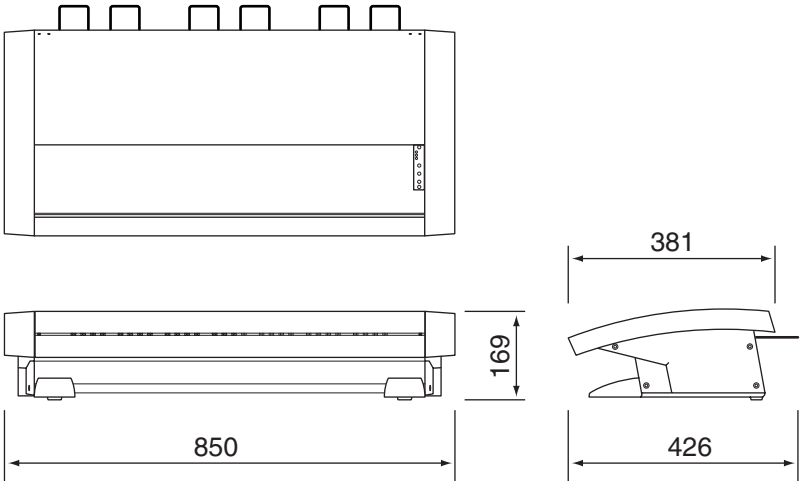




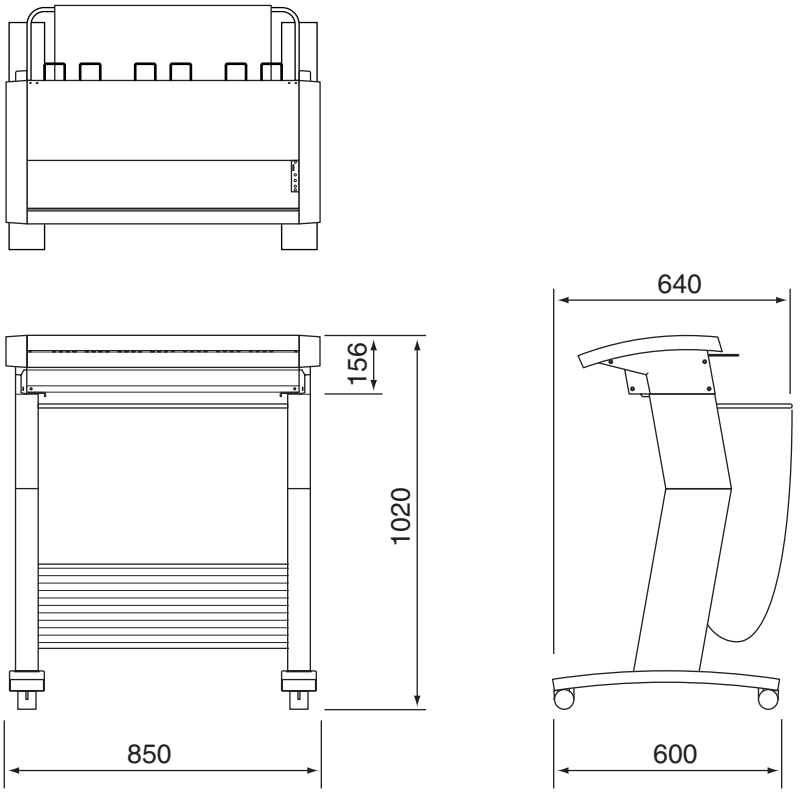


Unit : mm
Dimensional precision error : ±5 mm

External Dimensions of the CS1100EV



When mounted on the optional stand



Unit : mm
Dimensional precision error : ±5 mm

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The specifications, etc., in this manual are subject to change without notice.

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February 27, 2003 1st edition-01
GRAPHTEC CORPORATION